

**Island Towns**  
**Managing Urbanization in Micronesia**

*John Connell and John P Lea*



*Occasional Paper 40*

**Center for Pacific Islands Studies**  
School of Hawaiian, Asian & Pacific Studies  
University of Hawai'i at Mānoa  
*Honolulu*  
and  
**Research Institute for Asia & the Pacific**  
University of Sydney

© 1998 by John Connell and John P Lea

The views expressed in this publication are those of the authors and not necessarily those of AusAID or any other body associated with it.

ISSN 0897-8905

## Contents

<i>Preface</i>	v
<i>Acknowledgments</i>	vii
PART ONE: THE CONTEXT OF URBANIZATION IN MICRONESIA	1
1 Introduction	3
Urban Beginnings	17
2 Population Migration and Urbanization	35
The Demographic Structure	37
Migration in the Region	48
International Migration	60
3 Urban Economy and Society	80
The Urban Economy	86
Employment and Urban Society	97
Conclusion	105
PART TWO: URBAN DEVELOPMENT ISSUES	109
4 Urban Management and Planning	110
Land-Use Planning Goals	114
Land-Use Planning in the Federated States of Micronesia	119
Urban Management in Kiribati	122
Urban Planning in the Marshall Islands	126
Master Planning in Palau	127
Strengthening Planning Capabilities in Micronesia	130
5 Urban Land Policy	135
Federated States of Micronesia	137
Kiribati	146
Marshall Islands	149
Palau	151
Addressing the Priorities	154
6 Housing	158
The Urban Housing Process in Micronesia	160
Housing Conditions in Micronesia	163
Housing Policy in the Micronesian Countries	169
Accommodating Micronesia	177

7	Public Utilities	181
	Water Supply, Sewage Treatment, and Waste Disposal	183
	Palau	185
	Power and Energy Supply	199
	Involving the Community	203
8	Toward Sustainable Urban Development	205
	<i>References</i>	211

### *Tables*

1	Population Growth in Micronesia	37
2	Population of the Islands of the Federated States of Micronesia, 1920–1994	39
3	Population of Kiribati, 1852–1995	42
4	Population of the Marshall Islands, 1920–1988	45
5	Population of Palau, 1900–1986	47
6	Local and Foreign Population in Palau for Selected Census Years	67
7	Urban Management Functions in South Tarawa	124
8	Housing Units in the Federated States of Micronesia, 1994	164
9	Housing Indicators in South Tarawa	167

### *Maps*

1	Micronesia	2
2	Republic of the Marshall Islands	6
3	Federated States of Micronesia	8
4	Republic of Palau	9
5	Republic of Kiribati	11



## Preface

SUSTAINABLE DEVELOPMENT has become the catch-cry of our time as we approach century's end. The necessity of achieving, or at least aspiring to achieve, economic growth that is sustainable in environmental and human terms is widely acknowledged. But when we enter the morass of the modern world, with its layers of legal complexity, competing political interests, and the vastly different needs of developed and developing economies across the globe, it is clear that generic solutions imposed from above or outside will not take us far toward our goal. Local solutions to local situations are a more realistic means of achieving sustainability in a meaningful way.

The Research Institute for Asia and the Pacific (RIAP) at Sydney University has focused its research activities on developing the human resources that can drive the quest for sustainability throughout the Asia-Pacific region. Through our role in the Human Resource Development Working Group of the Asia-Pacific Economic Cooperation (APEC) forum, we have led and participated in several projects that will enhance the skills of Asia-Pacific managers of the future. The consultative and consensual nature of the APEC forum serves to preserve the integrity of local situations, while providing a regional perspective to issues of common concern. RIAP has likewise been proud to provide expert support for the Australian Agency for International Development (AusAID) in studies of the Mekong region and now, with this new study, of the Pacific Island states of Micronesia.

This study examines the problems of urban growth in the Micronesian island states of the Pacific, where rapid rural-urban migration in the 1960s and subsequently produced unusually high urban population concentrations. The underlying approach seeks to ensure the establishment of a form of future sustainable urban development in the region, where the urban economic and social system reflects the needs of all citizens and where service delivery management does not result in uncontrolled environmental degradation. These are major challenges for island microstates, whose small economies depend significantly on external support.

## PREFACE

The chief purpose of this study is to examine the condition of urbanization in the four independent countries of the Federated States of Micronesia, Kiribati, the Marshall Islands, and Palau from a comparative perspective. Where possible, this is supported with contemporary materials from official government documents, consultants' and nongovernment organizations' reports, the press, and by speaking with a range of individual people in the Micronesian towns.

The study follows two earlier investigations by the same authors, on urbanization in Melanesia (Connell and Lea 1993) and Polynesia (Connell and Lea 1995). Their focus and that of the present study is first, on the key underlying factors that determine the context of urbanization; second, on an examination of selected major urban sectoral issues; and third on the challenge present in the towns to achieve better urban management and planning. It is not the intention to identify definitive solutions to long-standing problems or to develop new planning strategies. Rather, the objective is to improve the understanding of regional urban affairs among Micronesians in a part of the world that is among the last to experience urbanization. For too long Pacific peoples have had their development problems assessed in terms of other cultures and societies, when all along there has been a wealth of experience in Oceania itself that can lead to the formulation of locally appropriate urban policies.

We wish the peoples of Micronesia well in implementing their own solutions to the issues that confront them.

RIKKI KERSTEN

*Research Institute for Asia and the Pacific*  
*University of Sydney*

## *References*

Connell, John, and John P Lea

- 1993 *Planning the Future: Melanesian Cities in 2010*. Canberra: National Centre for Development Studies.
- 1995 *Urbanisation in Polynesia*. Canberra: National Centre for Development Studies.

## **Acknowledgments**

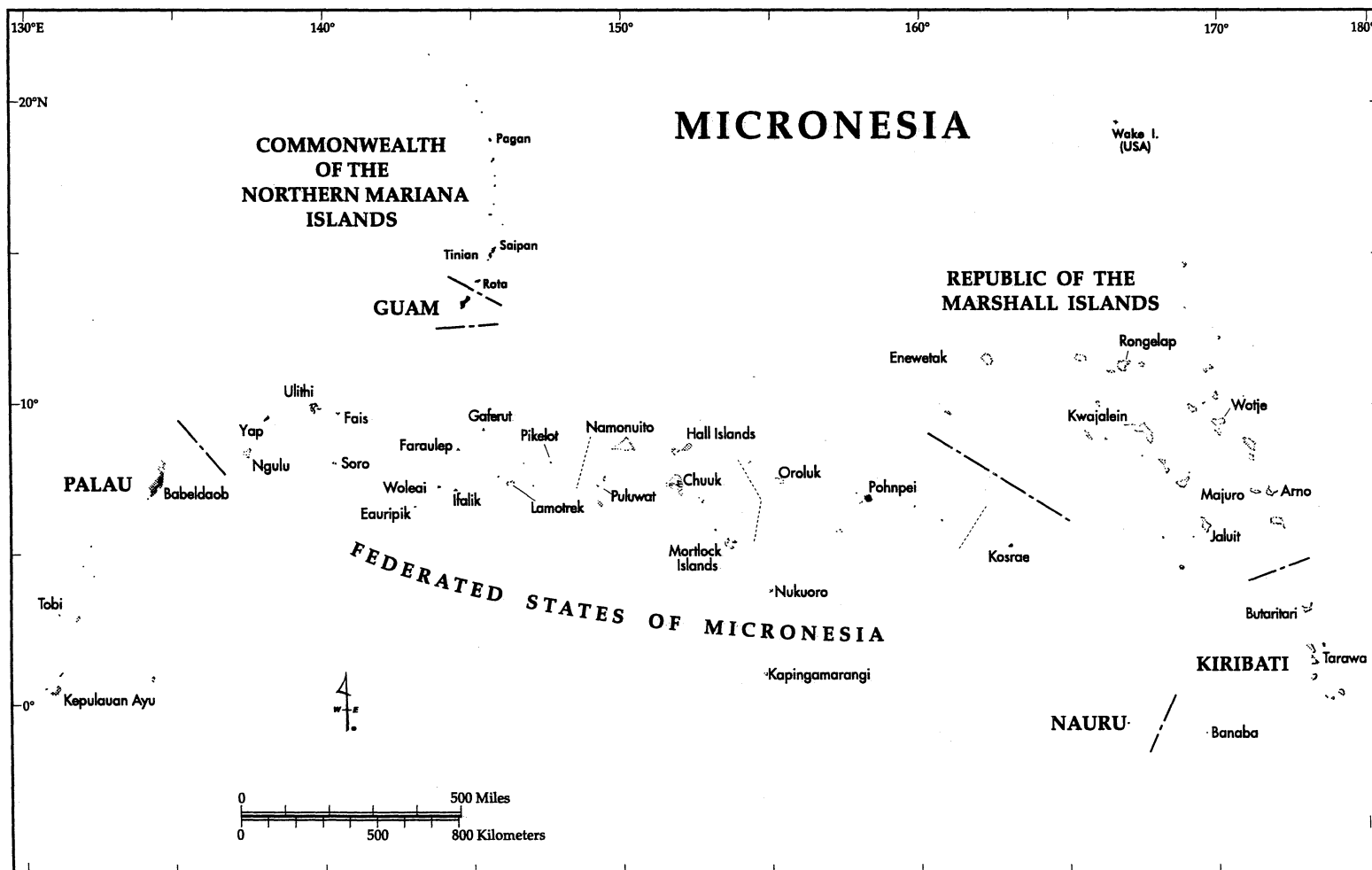
THE AUTHORS would like to thank the Research Institute for Asia and the Pacific at the University of Sydney, especially Director Dr Rikki Kersten, for enabling the funding of this study to become a reality. RIAP in turn gratefully acknowledges the support of the Australian Agency for International Development (AusAID), which made the research possible. Thanks are also due to the Center for Pacific Islands Studies at the University of Hawai'i at Mānoa, and its Director, Professor Robert C Kiste, for publishing the study and thus ensuring that it will meet a wide audience in the Pacific.

The authors are deeply appreciative of the assistance provided by Australian diplomats during the course of the fieldwork in Micronesia. We are also particularly grateful to Australian Ambassador Perry Head and his embassy staff in Pohnpei. Fiona Bricknell and Leo Kuipers helped us in many ways and greatly improved our ability to meet as many people and organizations as possible. We were received all over the region with great kindness by many Micronesians, too numerous to list here individually, and to all of them we express our thanks. Last but certainly not least, we have been very well served with great editorial skill by Janet Rensel of Honolulu.

---

## **Part 1**

### **The Context of Urbanization in Micronesia**



Map 1

## Introduction

*Infrastructure* is a magic word out here now. In the old days, the magic word was *per diem*. Per diem meant freedom, travel, adventure for blithe spirits with white shoes and belts—"tap dancers"—who wandered the world, conferring and fact-finding. The U.S. was their sugar daddy and their whipping boy. Those were the red-eyed, white-shoed, globe-trotting days. And now: *infrastructure*. Narrowly construed, it means water and power systems, roads and docks and airports.

Paul Kluge, *The Edge of Paradise: America in Micronesia*

BY THE END of this century and for the first time in history more people in the world will live in urban than in rural areas. Even the small island states of Micronesia are coming close to that situation; in both Palau and the Marshall Islands substantially more than half the national population already live in urban areas. Everywhere the populations of towns are growing faster than those of rural areas. Although urban centers there are much smaller than in most other states of the Pacific, urban problems are worsening in each of the four independent states of Micronesia. The difficulties of providing adequate urban infrastructure and services—long of critical concern in the larger cities of the developing world—are now readily apparent. The relatively small size of urban centers in the Pacific has not prevented the recognition of serious problems or the need for an active response.

In Kiribati, for example, urban management in Tarawa is much more developed and appropriate than in other much larger states, while in the Marshall Islands, appalling urban conditions in Ebeye (Kwajalein Atoll) have been improved through a program of planning and investment. Nevertheless it is apparent that development policies have yet to enable sustainable urban development in the region. Municipal and national governments must respond to maintenance problems, unsatisfied demands for housing and other services, and

## THE CONTEXT OF URBANIZATION

environmental degradation (Connell and Lea 1993). Though often writ small, these issues are severe in Micronesia, posing serious problems for urban residents and national governments. The pressures on urban services are as great in Majuro (Marshall Islands) and Tarawa (Kiribati)—where problems of water supply, sanitation, waste disposal, and the supply of low-cost housing are already of concern—as they are in many and much larger cities in the Pacific region. The pressures are also considerable in the smaller towns where less attention has been given to urban planning.

This paper examines the four independent Micronesian states: the Federated States of Micronesia (FSM), the Republic of Kiribati, the Republic of the Marshall Islands, and the Republic of Palau (map 1). Many of the problems of urbanization described in these countries are representative of circumstances also found in other Pacific Island states (Connell and Lea 1993; 1995). To a greater or lesser extent, the four Micronesian island states of the Pacific (excluding the small independent state of Nauru) exemplify all the most severe development problems generally associated with island microstates. In some respects the history of American colonialism has hindered the establishment of a more independent economic structure in three of the countries. The Marshall Islands, the Federated States of Micronesia, and belatedly Palau have all signed Compacts of Free Association, giving them political independence while they remain exceptionally dependent on US aid. By contrast, Kiribati, formerly the Micronesian component of the British Gilbert and Ellice Islands Colony but independent since 1979, possesses an economy less dependent on external assistance than those of its northern neighbors. However, since aid is a tiny fraction of that received in the former US territories, Kiribati is relatively impoverished.

### **Central Pacific Geographies**

The Marshall Islands, Palau, and the Federated States of Micronesia have had complicated colonial histories. Most of the islands were not visited by Europeans until the end of the eighteenth century. German trading posts were established on several islands in the next century. In the 1880s, Spain took possession of Yap

## INTRODUCTION

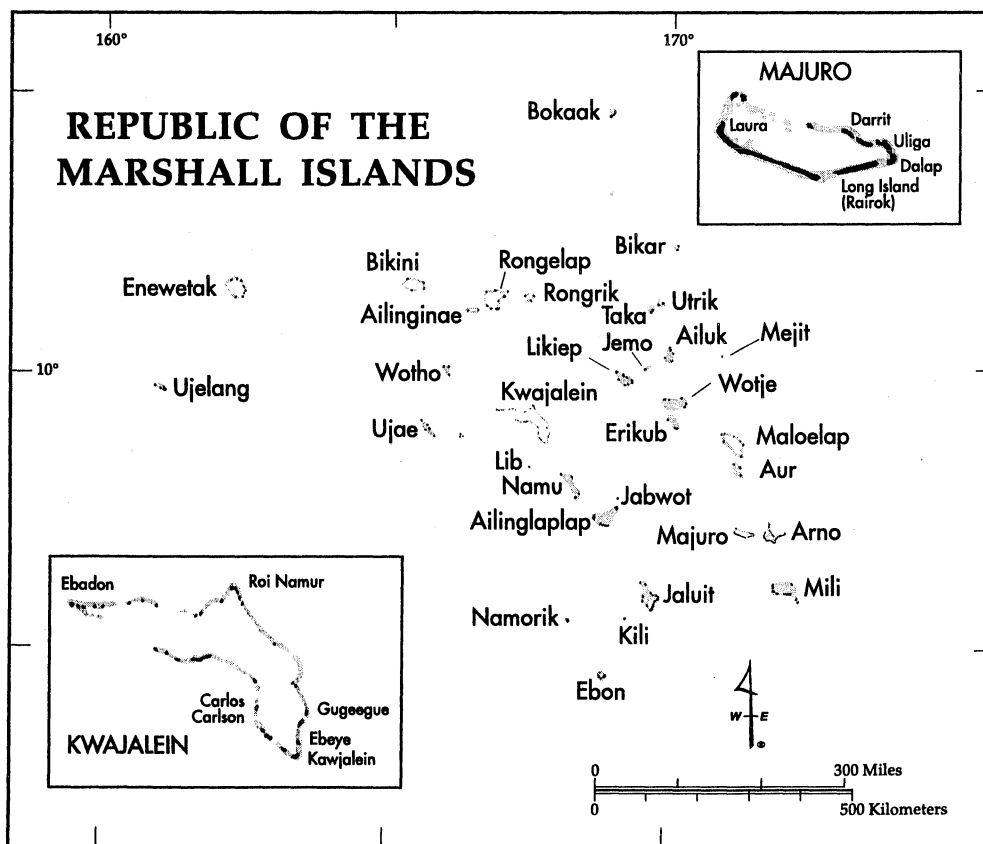
and Pohnpei, but in 1899 the Caroline Islands (stretching from Palau to Kosrae) were formally transferred to Germany. The Marshall Islands had become a German protectorate in 1885. During the First World War the Japanese quickly captured all the main islands and in the interwar years sought to develop a colonial empire. In 1935 there were more than 25,000 Japanese civilians in Palau—four times the local population—and Koror was a thriving urban center. In the Marshall Islands, Jaluit Atoll became the location of a small town with more than 3,000 people.

Following World War II, the Caroline Islands and the Marshall Islands, along with the Northern Marianas, were combined in 1947 into the US-administered Trust Territory of the Pacific Islands (TTPI), which remained in place until the Northern Marianas became a Commonwealth of the United States in 1975; subsequently the other entities signed Compacts of Free Association with the United States at various dates. By contrast, Kiribati belatedly became a British protectorate in 1892, and in 1916, along with the Ellice Islands, Banaba, and the Northern Line Islands, became the Gilbert and Ellice Islands Colony. The Gilbert and Ellice Islands groups separated in 1975. The Ellice Islands (being Polynesian) became the independent state of Tuvalu in 1978, and the Gilbert Islands became independent as Kiribati in 1979 (though it was not until 1983 that the US Senate approved recognition of Kiribati's sovereignty over the distant Phoenix and Line Islands groups).

*The Republic of the Marshall Islands* consists of thirty-four coral atolls spread over two million square kilometers (map 2). It became self-governing in 1986, entering into a Compact of Free Association with the United States that involves substantial budgetary aid for fifteen years from 1986–87; the level of assistance declines until 2001, when Compact funding will end. Since 1986 economic growth has been limited, below the rate necessary to balance declining budgetary assistance. Meanwhile the population of over 50,000 is growing at a rate of more than 3 percent per year, one of the fastest growth rates in the world. Two-thirds of the population live in the overcrowded urban centers of Majuro and Ebeye, where there are considerable environmental problems.

*The Federated States of Micronesia* consists of four states—Yap, Chuuk





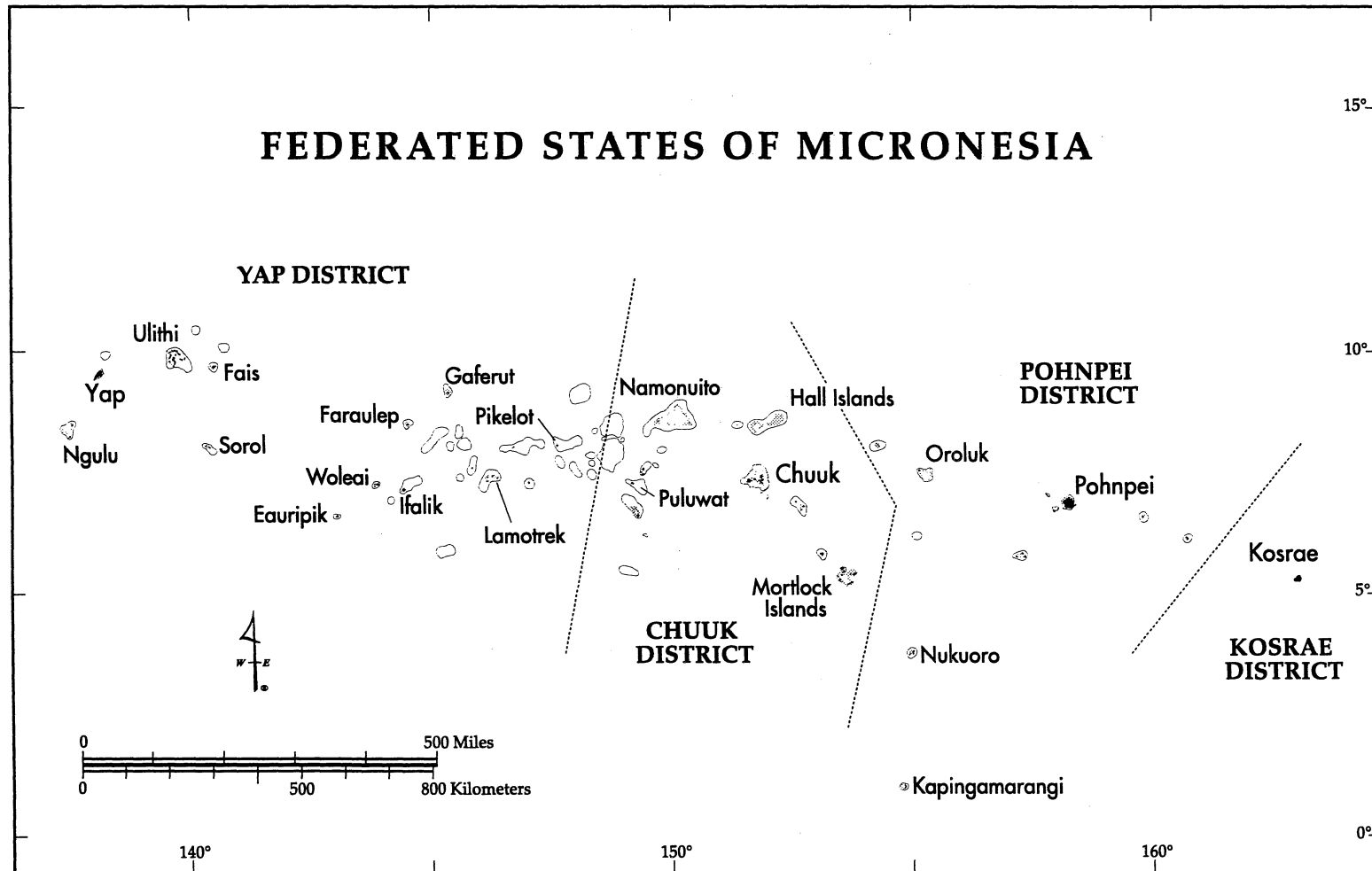
Map 2

## INTRODUCTION

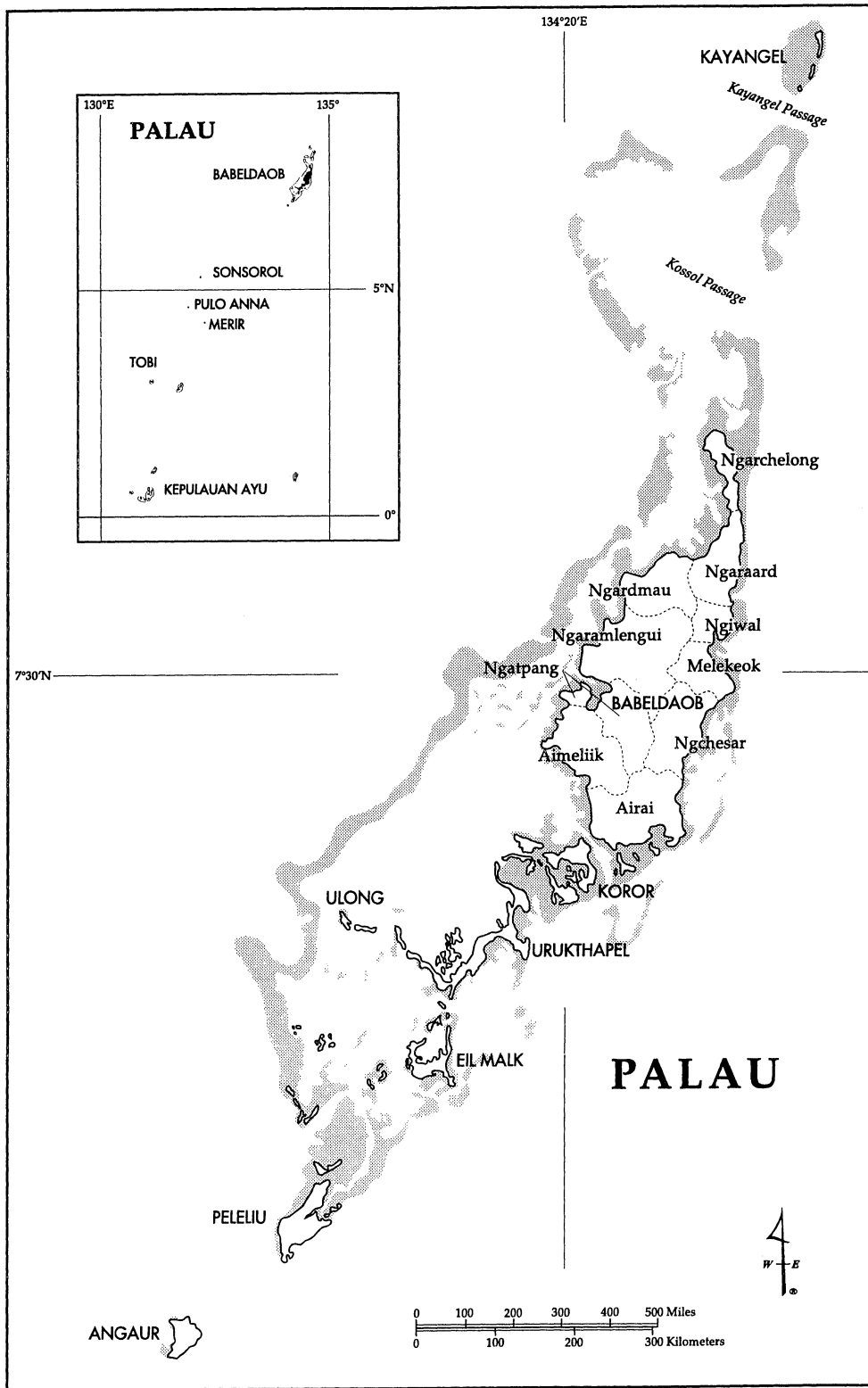
(Truk), Pohnpei, and Kosrae—each with very considerable political autonomy (map 3). The first three states each comprise high volcanic islands with peripheral coral atolls, while Kosrae is a lone high island. Several distinct languages are spoken across the vast area of three million square kilometers, of which just seven hundred square kilometers are land. These states, which were the poorest in the Trust Territory of the Pacific Islands, signed a Compact of Free Association with the United States in 1986 with financial arrangements similar to those of the Marshall Islands. Economic development in the Federated States of Micronesia has been more limited, and the subsistence system more visible, than in other parts of the former trust territory. The population of about 100,000 is concentrated mainly in Chuuk and Pohnpei. The national capital of Palikir is located outside Kolonia in Pohnpei. Since the signing of the Compact there has been considerable outmigration, especially from Chuuk to Guam—one measure of the uphill task of achieving economic growth.

*The Republic of Palau* consists of a string of islands, with a total land area of about five hundred square kilometers (map 4). Only eight islands are populated, and more than half the population of 16,000 live on the urbanized island of Koror. The Republic of Palau was formed in 1981, and after a series of unsuccessful referendums finally signed a Compact of Free Association with the United States in November 1993 and became independent in 1994. Political disputes, and the failure to sign the Compact earlier on, slowed economic development and hampered development planning. The country's heavy dependence on US budgetary assistance will continue under the Compact, which will provide Palau with about US\$450 million over a fifteen-year period. Palau has a small fishing industry, and tourism has considerable potential. Guest workers have immigrated from the Philippines (especially in the fishing industry), and Palauans have emigrated to Guam and beyond, within the United States.

*The Republic of Kiribati* is one of the largest states in the world, covering over three million square kilometers, almost all of which is ocean (map 5). The land area is just seven hundred square kilometers. All the islands are coral atolls, though Banaba is a raised coral island; Kiritimati (Christmas Island) is regarded as the largest atoll in the world. The most distinctive physical characteristic of



Map 3

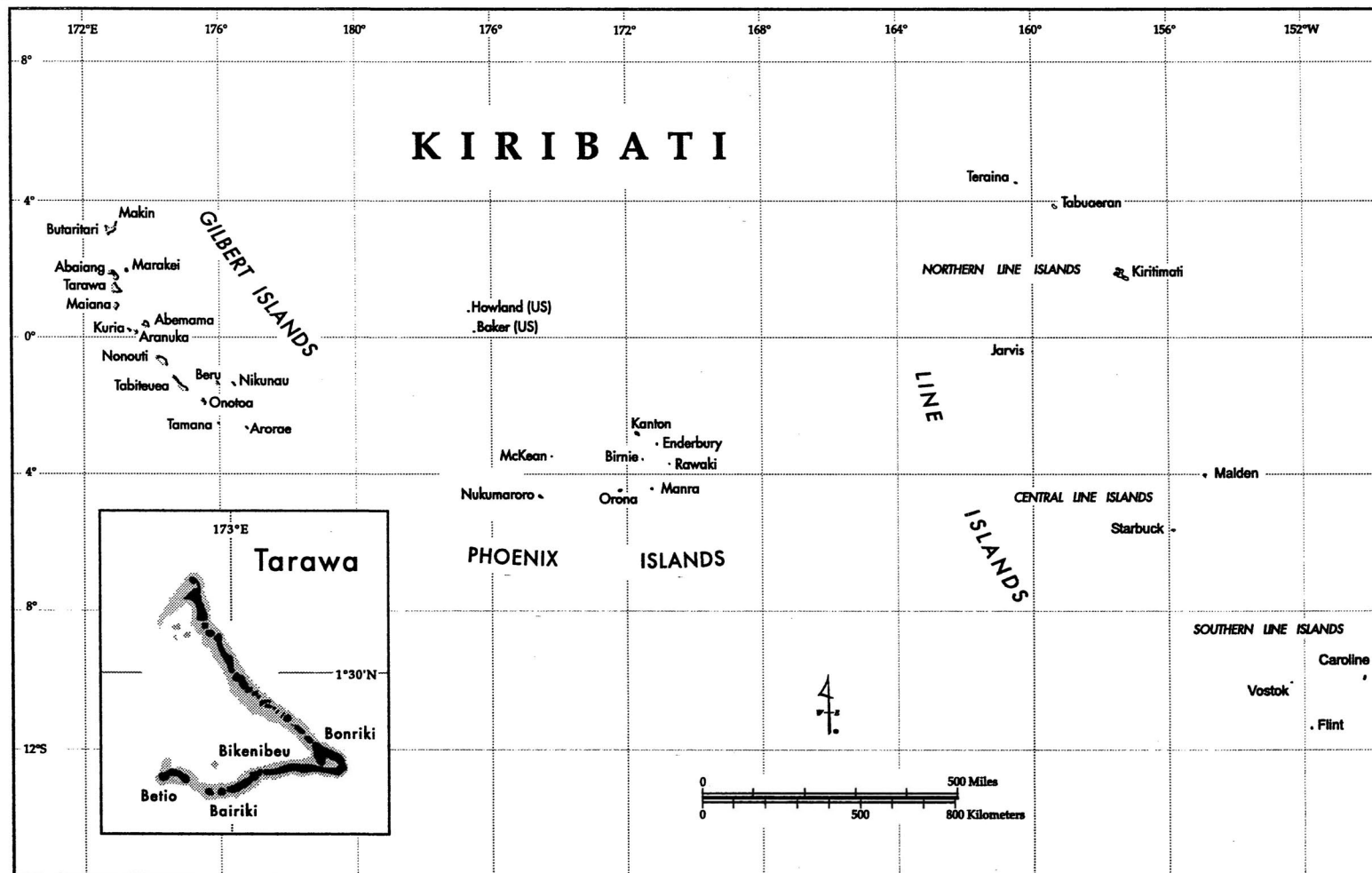


Map 4

## THE CONTEXT OF URBANIZATION

Kiribati is the wide scatter of tiny islands; Kiritimati, for example, is 3,500 kilometers from the capital in Tarawa, and the most distant Line Islands are 4,000 kilometers away. Agriculture and fisheries are crucial for subsistence livelihoods, and most of the population are involved in the subsistence sector. Phosphate mining in Banaba ceased in 1979, the year of independence, and subsequently Kiribati has relied on income from the Revenue Equalisation Reserve Fund (derived from phosphate), aid and remittances from overseas migrants in Nauru, or working on international shipping lines. A third of the population of 70,000 now live in the urban center of South Tarawa.

Of the four geographical entities, Palau has a per capita income of around US\$5,000, much greater than that of the Marshall Islands (around US\$2,000) or the Federated States of Micronesia (about US\$1,700); the last has always been the poorest of the former TTPI entities (despite having an income more than double that of Kiribati). Indeed, Kiribati has a per capita income of less than US\$700, the lowest figure in the Pacific region. Palau's per capita income is more than six times that of Kiribati, although presently Kiribati has a more productive economy. The three former trust territory states considered here all exhibit a massive dependence on cash flows from the United States, and a resultant dependence on imported commodities and consumer durables along with a very large public sector and small private sector. Material aspirations have increased beyond the ability of the local economies to support them. The continuation of high and rising aspirations and limited local resources, in a remote region characterized by high population growth rates and massive distances even within states, has produced tasks of development planning that are greater than anywhere else in the Pacific. Outside Kiribati all development strategies demand extensive external funding as well as expertise, a situation that was written into the Compacts of Free Association. The task is made more difficult by the extraordinary size of some of the countries, especially the Federated States of Micronesia where component states with separate languages and traditions compete over access to power and resources.



Map 5

### **Problems of Development in Micronesia**

The problems of development in Micronesia emphasize, often in severe form, those of other small island states in the Pacific: extremely limited natural resources and high population densities on small, remote islands, scattered over vast expanses of ocean, at great distance from major markets; small domestic populations (and markets) with limited skills, minimizing the possibility of developing import substitution industries; costly imported energy dependence; a large and relatively well-paid but unproductive and often inefficient bureaucracy; diseconomies of scale, high costs of infrastructure, and massive trade deficits; and vulnerability to hazard, especially typhoons (cyclones), that may worsen in future years. There are also problems of land tenure, fragmentation, and alienation. The inherent problems of economic development are further complicated, first, by populations (other than in Palau) that are growing more rapidly than in most other parts of the Pacific region, resulting in heavy pressure on limited services, a high rate of unemployment, and emerging social problems in the urban areas; second, by intense local and regional rivalries, including tensions between high islands and atolls (especially in the Federated States of Micronesia, where there is potential for fragmentation) since most Micronesian societies are characterized by rank; and third, by the overlay of an American institutional system (except in Kiribati). The American educational system in particular has promoted an orientation toward employment in the urban bureaucracy rather than in the private sector or in directly productive activities such as agriculture and fisheries. It has also established a social and political environment that attaches high priority to the liberty of the individual, and limits the possibility for regulating such issues as population movement, access to employment, and access to education. All this has contributed to an exceptionally poor economic growth record, while expectations rapidly and continuously rise.

The potential for economic growth in each of the countries lies primarily in fishing, tourism, and to a lesser extent, small-scale manufacturing and agriculture. Opportunities are nevertheless few because of the narrow resource base, limited domestic capital, lack of skilled human resources, restricted access to markets, and rapid population growth rates. Because of high salaries in the government

## INTRODUCTION

sector, the task of developing private enterprise, especially using Micronesian labor, has been considerable. All the economies are substantially aid driven, with most of those employed working for the government and wages channeled mainly into consumption. These features have emphasized openness and external orientation and limited the potential for changing the direction of economic development.

### **The Regional Appraisal of Urbanization in the Pacific**

The appraisal of urban conditions in Micronesia is hampered by the variable quality of information on demographic and socioeconomic conditions in the towns. The first useful census of the Trust Territory of the Pacific Islands was conducted in 1973 and is flawed, while the 1980 census recorded a significant undercount almost everywhere. Much of the data required to prepare effective urban plans are not available, and little is known in particular about the extent of poverty or the coping mechanisms whereby recent arrivals survive in the towns. This is less true of Kiribati, where the census is the most reliable in Micronesia and where new urban management plans provide a good example of what can be achieved with very slim government resources.

The most recent censuses and other survey data in Micronesia permit a number of distinctive features about urbanization in the region to be identified:

Though town populations are still quite small, overall growth is rapid throughout the region, with the Federated States of Micronesia and Palau experiencing some in-migration. In the Marshall Islands population has doubled in just two decades.

Rural-urban migration rates are now low, partly because of rapid movements off the land in former times (especially in Palau and the Marshall Islands). Unlike many other parts of the Pacific, natural increase is an important influence on urban growth rates.

Populations are relatively homogeneous, especially in the Marshall Islands and Kiribati, despite sociopolitical differences between districts. In Palau and the Federated States of Micronesia there are linguistic minorities, and outer islanders who often occupy distinctive urban enclaves are quite



## THE CONTEXT OF URBANIZATION

different in many respects from the indigenous occupants of the high islands.

Urban economies are characterized by the dominance of bureaucratic employment with virtually no manufacturing industry in the towns. In several places, especially Kiribati and the Federated States of Micronesia, urban residents continue subsistence agricultural activities on a small scale, and rates of urban unemployment are uniformly high.

Tourism is still a small industry in the independent countries of Micronesia, though considerable pressure is now evident for developing tourism in Palau in a direction similar to that of the Northern Marianas. In the rest of the region remoteness and other factors have created cost barriers.

Urban service provision and sanitary infrastructure are poor by international standards but in much of the region are relatively advanced compared to what is available in most independent Pacific Island countries.

Considerable investment has been made in urban infrastructure through use of Compact funds, and corporatization (or privatization) of public utilities is proceeding rapidly.

Urban management and planning is not well advanced anywhere apart from Kiribati.

There are also many similarities with urban centers in newly independent countries elsewhere. First, economic development has increasingly emphasized urban issues—through a growing interest in industrialization and an expansion of the bureaucracy—with new developments putting pressure on the urban infrastructure. Second, in most places a substantial proportion of the urban infrastructure was constructed in colonial times and then for rather smaller towns than the present ones. In postcolonial times some of this infrastructure has fallen into disrepair, as problems of recurrent funding, maintenance, and the delivery of urban services have made the necessary “good housekeeping” and extension of the existing system difficult. Third, standards that proved adequate in the past are less likely to be good enough in the future as expectations increase and urban residence becomes more common. Fourth, the Micronesian states are very small

## INTRODUCTION

and their economies have experienced very limited growth. There is a premium on human resources—there are few skilled workers, and public works, physical planning, and related areas are not given high priority. Urban planning is effectively a national government function divided between a host of government departments, though municipal authorities are beginning to emerge to coordinate planning and management at the local level. Consequently, although the towns are small, there are few skilled urban managers; little integrated physical, economic, and environmental planning; no enforceable town plans; and often an absence of building codes and other appropriate legislation. Over time the impact in terms of inadequate provision of water supplies and other services is becoming visibly apparent through such “brown” environmental issues as polluted lagoons and water supplies, air pollution, and inadequate and unhygienic solid waste and sewage disposal. In none of the urban centers is there any indication that the situation is improving. There is increasing recognition from outside the region that urban environmental sanitation services in the Pacific must be upgraded urgently (World Bank 1995a).

Adequate provision of basic urban services is an essential prerequisite to sustained economic, physical, and cultural development. A World Bank sector study on the urban environment in the three South Pacific Island countries of Solomon Islands, Fiji, and Western Samoa suggested that changes in policy direction could improve the urban environment markedly. Five key levers of development and investment demand government attention: (1) making the best of investments already made through institutional reforms, rehabilitation of assets, and expansion of the consumer base; (2) drawing on unique national characteristics including traditional community participation and increasing public awareness; (3) turning constraints into opportunities—such as using the delays commonly experienced in finding new waste disposal sites to promote waste minimization, recycling, and conservation; (4) reviewing land policies and regulations that impose extra costs on providing urban services; and (5) undertaking investment only when associated management and maintenance capabilities are in place (World Bank 1995a, v).

Although this paper, like the two other regional studies that preceded it

## THE CONTEXT OF URBANIZATION

(Connell and Lea 1993; 1995), focuses on urban services, it is necessary to explore the key background issues of national demography, urbanization, the condition of the urban economy and society, urban management and planning, and land policy before dealing with the specifics of housing, water supply, and public utilities. Two important urban services, transport and health, are not examined in any detail as they are the subject of a considerable and distinct literature.

The present condition of the Micronesian towns is very much a result of their historical evolution and the special mix of social, economic, political, and physical features found in the region. The best means of overcoming current difficulties in urban services delivery lie in the adoption of policies sensitive to these features. The changeover from colonial administration to independent statehood in the 1970s and 1980s weakened inherited control mechanisms governing urban development. Rarely have municipal governments in the primate cities of small developing countries enjoyed the preconditions necessary for them to operate effectively as urban managers. They are commonly subjugated by national government located in the same city and make do with scant resources. The general lack of an integrated context for physical planning has also created difficulties for the provision of urban services, resulting in the planning and provision of urban services by different organizations with different agendas, principles, and policies and without any real coordination or cooperation between them.

In the past decade several countries, especially in Asia, have attempted to introduce integrated urban infrastructure development programming to systematically tackle the problems involved. It may be long before this kind of integrated planning reaches Micronesia, though Kiribati has made substantial progress toward developing a more appropriate municipal framework for coordinated urban planning and management. Orderly investment programming for urban services delivery in Micronesia rests on the clear identification of the infrastructure priorities in the region and the manner in which they are presently provided. While there are costs involved in establishing an appropriate framework for adequate planning and management, these are likely to be much less

## INTRODUCTION

than those associated with urban growth in an unplanned context because lack of planning often results in persistent recourse to costly ad hoc measures. This study does not aim to provide ready answers to current difficulties but to set out issues and options in a form suitable for discussion by those involved. The objective is to highlight planning needs by making a complex and extensive array of data more accessible and intelligible to local professionals and community leaders.

### Urban Beginnings

There were tiny urban centers in Micronesia in the nineteenth century, but they were usually simply collections of foreign traders and a handful of bureaucrats. Rapid growth did not occur until the interwar years of the twentieth century in Palau and the Marshall Islands, during the Japanese era. But those early towns disappeared during the Second World War and not until the 1960s did a second and more ubiquitous phase of urbanization take place. In the former TTPI area this was partly a function of the American policy of concentrating expenditure on the central high islands, and more generally followed the development of urban services and the expansion of more prestigious and relatively well-paid urban employment opportunities in the late colonial era. The expansion of urban employment has long since ended and to some extent this has contributed to the reduction in the rate of urban growth.

### Birth of the Regional Capitals

#### *Koror: Rise and Decline of a Colonial City*

The first place in Micronesia where there was any semblance of urban development was Koror in Palau, which was already “an attractive little town” in the 1830s: “A wide, stone pier extending a quarter of a mile out to sea was joined to a quay of the same length that ran along the beach. . . . A broad road, paved with stone, ran up from the harbor, while stone-lined paths crisscrossed the town in every direction” (Hezel 1983, 178)

Despite its excellent harbor, however, Koror was isolated from trade in the region and it declined during the nineteenth century. In the German era it was no

## THE CONTEXT OF URBANIZATION

more than a government station but under the Japanese became a large settlement, with many modern buildings, factories, warehouses and houses, and several schools. From the small village of the 1920s to a largely Okinawan fishing village in 1930, the town grew rapidly and achieved a population of more than 3,000 by 1935. The Palau branch government of the Japanese-mandated territories provided for open spaces, carefully positioned sites for government buildings, saw that the streets were paved and adequately drained, and ensured the houses were built with good foundations. Koror was a steadily growing colonial city (Ehrlich 1984). At the end of the 1930s growth became even more rapid when the pearl industry began to yield substantial profits. Mark Peattie graphically described the urban scene, quite different from almost anywhere else in the Pacific:

During the winter months the presence of well over a thousand divers returning from long stretches of hard and dangerous work in the Arafura Sea, their wallets thick with pay, fueled an economic boom, particularly in the central districts of the city, where most of the inns, restaurants, and entertainment business were located. . . . Koror's restaurants were booked solid every evening and its inns and hotels filled to capacity. Bars, cafes, geisha houses, and brothels did a roaring business and the twang of the shamisen and the sounds of raucous laughter, singing, and rhythmic clapping carried over the calm waters of Koror bay each evening the divers were in port. (1988, 176)

By the end of World War II, that era had abruptly ended. Koror was a shell of its former grandeur and grew only slowly under the American postwar administration. By 1955, despite steady expansion, the population was no more than 2,200 (about a third of the total population of Palau), and Koror's attractions were listed as "electric power, a movie theatre, a hospital, motor vehicles and the traditional prestige of Koror village" (Force 1960, 26). The decline of Koror was well documented by an American traveller in the early 1960s:

Changes indeed. We drove up the main street. It had been concreted. Now it was dirt. Clouds of dust enveloped us. The jeep bumped and bucked over loose chunks of the former pavement. The street had been solidly lined for two miles by government buildings, department stores, shops, studios, fine

## INTRODUCTION

residences, radio towers, schools, steamship offices, bookstores, neon-lit cafes, Shinto shrines, Buddhist temples, Christian churches, theatres, and geisha houses. Now it had largely reverted to jungle. It was before the war a town of twenty thousand people, fifty thousand after the Japanese troops moved in. . . . Now . . . the population was under four thousand. We saw forlorn remains of past glory—tumbled gateposts, stone lanterns, sculptured lions, memorial tablets, half covered by weeds and vines. From the crumbled mass casuarina trees had sprung up. In this “Paris of the South Seas” there had been any number of places of entertainment. Now there was no motion picture theatre other than a disreputable tin barn that overcharged for the privilege of viewing pictures thirty years old, no legitimate theatre, no opera or musical comedy. No record shop. The Japanese had built street after street of airy, artistic little houses for Japanese personnel. Now there was no American housing better than converted sheet-iron quonsets or the equivalent. Koror had been a clean and dustless city of paved streets. Now there were no paved streets, no money to maintain unpaved streets, no taxis except ancient jeeps with uncushioned iron seats, few private cars, and no spare parts available. (Price 1966, 111–112, 130–131)

But in the 1960s a new phase of rapid urbanization began.

### *Urban Settlement in the Central Caroline Islands*

Urbanization had very modest beginnings in the Caroline Islands that today comprise the Federated States of Micronesia. At the start of the twentieth century only Kolonia, with a substantial church and governor’s residence, could be called a township. The town had been founded by the Spanish as Colonia de Santiago in 1887 and was a small administrative center in both the Spanish and German colonial eras. In the interwar years the buildings dating from the German era “became submerged among the homes, stores, offices and warehouses of a distinctly Japanese town” (Peattie 1988, 177). By 1941 more than thirty firms had offices and warehouses there, alongside schools, a hospital, and government offices; the town had a population of about 3,000, most of whom were Japanese immigrants. Pohnpei island also had one other town in that era, Matalanim, inland from the historic ruins of Nan Madol. Matalanim was a cassava and sugar company town, with a narrow-gauge railway and housing for migrant Japanese and Korean workers; its population

## THE CONTEXT OF URBANIZATION

was also about 3,000.

Yap, Chuuk, and Kosrae had nothing resembling urban centers until the last years of Japanese rule, when Colonia (alternatively known as Yap Town) became a minor settlement. Japanese migrants were few on any of these islands because of the absence of extensive land with agricultural potential. Dublon, the administrative center of Chuuk since German times, attracted more government buildings, but the population probably never passed 1,000 until its prewar militarization. Like other Japanese towns in Micronesia, Dublon had no great planning or architectural pretensions; in 1941 it was “a rustic, mean-looking little place where only the main street was paved and the side streets, intersecting the bedraggled row of stores along the shoreline, were churned into bright glue-like mud after a heavy rain” (Peattie 1988, 211). Nonetheless in contrast to the urban centers of the postwar years it was almost a model of urban design.

### *“Metropolis” in the Atolls*

In the Marshall Islands the atoll of Jaluit became a major commercial center in the second half of the nineteenth century and by 1880 it was the busiest port in Micronesia. Though the port town was tiny, with two substantial trading firms and a few modern houses, it was “metropolitan indeed” compared with other parts of Micronesia (Hezel 1983, 290). In 1878 it became the center of administration of the new German colony but did not grow until Japanese times, as Okinawan fishermen, traders, and shopkeepers became concentrated on the northern tip of Jabor Island. By the end of the 1930s there were probably 1,000 Japanese there, along with some 2,000 Marshallese—a substantial urban population. However, there as elsewhere in Micronesia the indigenous residents of towns were almost all from that vicinity. There was no good reason for others to migrate and seek to establish themselves on alien land. Towns were colonial creations, largely occupied by migrants from the metropolitan powers. Jaluit reflected this Japanese influence.

In the early thirties, the buildings of the town were ranged along two principal streets of sand and gravel, wide enough for cars, one of which ran

## INTRODUCTION

along the lagoon shore and around the tip of the island, while the other intersected it at right angles just north of the main pier and crossed the island to the outer beach. North of this principal transverse street were the buildings of the Jaluit hospital, a small Shinto shrine, some small stores, and the wooden buildings of the Boston mission. South of it were a public school, more shops, the Jaluit Branch Government office and government dormitory for single officials, residences, the police station, the post office, and the houses of the Okinawan fishing families. At the southernmost edge of the town was the radio transmitter by which Jaluit kept in touch with Truk, Ponape and Palau. (Peattie 1988, 186)

As elsewhere, this era ended during the war, and Jabor town was so devastated by American bombing that when hostilities ceased the district center was relocated at Majuro.

### *South Tarawa*

The urban history of Kiribati is much less complex than that of the other parts of Micronesia. South Tarawa was established as the administrative center early in the twentieth century but was no more than a small colonial outpost for the first half of the century (map 5). Like most of the other small towns in the region it was badly damaged in the Second World War. In 1947, when a decision was made to establish the headquarters of the Gilbert and Ellice Islands Colony there, South Tarawa had a population of 1,643, or 6 percent of the total population. By 1963, South Tarawa's population had grown to 6,101, representing 15 percent of the total. The next five years marked the most rapid period of increase for South Tarawa and in 1968 the urban population reached 10,616, or 23 percent of the national total. In the decade after 1968 growth slowed, totaling 14,868 in 1973 and 17,921 in 1978, by which time South Tarawa contained 32 percent of the population of Kiribati. Rather like the Marshall Islands to the north, rural-urban migration in Kiribati was particularly important in the 1960s but became of reduced significance in the 1970s as the urban population consolidated. The early wave of rural to urban movement in the 1960s provoked considerable concern, and within the South Pacific region Kiribati was one of the first countries to attempt to translate that concern into practical policies.



## THE CONTEXT OF URBANIZATION

During the postwar years the population of South Tarawa also became more "urban" in the sense that in 1947 many in the population still depended on subsistence activities whereas in later years the area took on more visibly urban characteristics. In Betio and Bairiki, especially, the significance of local wage employment grew and the contribution and significance of subsistence activity in the use of time and in production of income declined. It can be said that South Tarawa effectively became a town in the 1960s, though it still contains many "rural" features.

### **Urbanization during the American Administration**

Despite the considerable difference between towns on atolls and high islands, American attitudes to urbanization appeared similar throughout Micronesia, though they evolved over time. In the first phases of the American administration it was recommended that urbanization be discouraged.

Where towns did exist, such as on Guam and Koror, they were made up of workers who held government jobs or were engaged in servicing the foreign group. It is to the interest of the natives to remain close to their land and home villages. The primary advantages of town life are that it makes more accessible to government a large labor supply and widens the range of cultural opportunities open to the natives. Both ends could be accomplished without building small cities of the Agana (Guam) type. It is urged that the Administration refrain from the ever-present temptation to draw natives from their local villages into towns located at the seat of government. Moreover, it is recommended that . . . no other large towns be developed in Micronesia. (Oliver 1951, 5)

In the next decade towns scarcely developed in Micronesia, to the extent that policies urging a greater concentration of the dispersed population gradually became more acceptable. The principal policy document on economic development in Micronesia in the 1960s, known as the Nathan Report, argued:

The economic development advantages of being able to pull together a labor force from throughout Micronesia, and of facilitating the flow of people from labor surplus to labor shortage areas will be beneficial to the ultimate objective of economic development. It will also be of benefit to the

## INTRODUCTION

people—both to those who move, and to those who stay at home. This kind of mobility can facilitate the creation of a Micronesian entity to replace the present somewhat artificial association of a dozen or so somewhat similar but nevertheless distinctly different cultural, political and economic entities. Increased mobility can speed the replacement of local particularism with a cohesive Micronesia. (Robert R Nathan Associates 1966, 100)

Hence,

As economic development proceeds, some of the district center islands will experience more serious labor shortages than others. Many people are now located in remote areas and on outer islands where they can neither contribute to the development of new economic opportunities in Micronesia nor share in the benefits. The trust territory government should encourage and facilitate the relocation of people from the outer islands to the district centers and from one district to another. This will give more people from the trust territory the opportunity to locate, adapt to and perform the more productive and higher paying jobs. This will not only serve the interests of the individuals but will also contribute to the development of the economy. (Robert R Nathan Associates 1967, 14)

Although the plan itself met with such opposition from both government and private bodies and from the Congress of Micronesia that its specific recommendations were largely ignored, in practice urban development tended to follow the relocation procedures suggested in the report as public services became highly concentrated on a single island within each district.

Despite the official encouragement of population centralization and urban growth, the towns themselves were unimpressive, bereft of amenities, with inadequate infrastructure for their inhabitants. As one critic noted: "The district centers serve as the towns of Micronesia, but the word should be used with caution, for they are nothing like towns in any developed part of the world. They are more rural villages than urban centers and most of them are crazy collections of little buildings made of concrete or sheet metal or packing cases or thatch strung at odd and individualistic angles, along winding, muddy, pot-holed dirt roads that climb hills and plunge into gullies and twist and turn as if their makers were drinking the fermented juice of the coconut palm as they worked" (Nevin 1977, 141).

## THE CONTEXT OF URBANIZATION

This depressing urban environment in the postwar period was emphasized by Marshall: "The rusting automobiles, decrepit toilets and ubiquitous beer cans symbolize the contact culture life style of Micronesia's district centers" (1994, 6), and by Labby in a description of Colonia: "The few stores, government buildings and residences that were its nucleus had become surrounded by clusters of small shacks, many of which were of scrap metal and discarded packing crates" (1976, 7). These may have been unflattering accounts of Micronesian towns but they are indicative of the minimal urban infrastructure that was left to inherit from the American colonial era.

### **Defining Towns in the Federated States of Micronesia:**

#### **The Picture in the Early 1980s**

Throughout Micronesia there have always been considerable difficulties in defining urban areas. Most definitions follow arbitrary municipal boundaries; this is particularly true in the Federated States of Micronesia where there is no satisfactory definition in Chuuk, Yap, or Pohnpei. Consequently most data on the urban populations are of limited value, as in the case of Kolonia (Pohnpei State) where boundaries have excluded people living on Sokehs from categorization in the urban area. The reverse is true in Chuuk where Weno (Moen) incorporates some relatively "rural" people. Such practices make interpretation of intercensal population change difficult in circumstances, for example, when the population of Kolonia fell between 1973 and 1980, while that of Moen grew, and Colonia remained about the same. In 1973 approximately 28 percent of the FSM national population could be considered town-dwellers, and in 1980 some 26 percent, but the extent to which there was a real fall is doubtful. It indicated two important conclusions: first, that towns in the Federated States of Micronesia were not growing as fast as was feared, and second, that the FSM urban population was much smaller than that of any other Micronesian state. This reflected the smaller proportions found in the formal sector of the economy and was an indication that a development strategy aimed at agricultural and fisheries development might have a greater chance of success in the Federated States of Micronesia, if only because of

## INTRODUCTION

population distribution.

Of the three FSM towns, only Kolonia, the capital of Pohnpei state, was a distinctively urban center in 1980, though its population was merely 5,549. However, the urban boundary then (unlike the situation in 1973) was drawn particularly close to the town center and excluded communities from the Mortlock atolls, Ngatik, Mokil (Mwokilloa), and Pingelap that had been long established on nearby Sokehs Island and were in many respects "urban." Within the town there were well-defined groups from Kapingamarangi in the Porakiet settlement and more dispersed migrants from Nukuoro and Kosrae. The significance of their presence in town was indicated by the fact that ethnic outer islanders, even if born on Pohnpei, tended to dominate the Pohnpei district government (Ritter 1980, 357-358).

In Yap and Chuuk this was not the case and in Yap especially would be improbable: "Micronesians discriminate shamefully against outer islanders. Most district centers have ghettos to which outer islanders are consigned" (Nevin 1977, 54). Whether through discrimination or not, the urban areas all had some distinct migrant areas; thus even on Moen, Filipinos lived in a distinct "Philippines triangle" close to the airport, and western islanders lived in a cluster of houses in Iras village at the edge of the airport. Within the towns many migrants found work with and through their kin; for example migrants from Eauripik on Yap worked mainly in the hospital in jobs "obtained by nepotism" (Levin 1976, 180). Comparing their social and economic organization to elsewhere in the island Pacific, the towns that developed in Micronesia tended to be smaller, exhibited less civic pride, and lacked conventional municipal authorities.

The case of Colonia in Yap was a little different in the immediate pre-independence era. Although the urban population was recorded as only 1,474 in 1980, in the mid-1970s urban changes suggested to Labby that "a large proportion of the population had moved there" (1976, 7), and to Lingenfelter that "many people have moved to town" (1975, 16). However, both authors also recorded significant commuting, creating an urbanization footprint across a larger part of the island than the limits of physical urbanization in Colonia

## THE CONTEXT OF URBANIZATION

would suggest—a situation that was probably also partly true in Pohnpei. Labby, for example, noted that an “important division has come between the westernized town of Colonia . . . and the outlying villages. Colonia has replaced the villages as a focal point in society” (1976, 1, 7). Yet this is curious since migration to town was in large part a function of the “feudal socio-political organisation” (Hughes 1982, 21). It was always extremely difficult for “low-caste” Yapese to advance economically, politically, or socially, so there was much migration of low-caste individuals to the only town (and to some extent overseas, facilitated by access to the United States after World War II). Colonia offered a slight chance of participating in the modern economy and was viewed as “a haven from servitude to the high class” and located away from many traditional obligations (Hughes 1982, 24). Thus while migrants throughout the Federated States of Micronesia sought higher wages in the urban areas, the movement to town in Yap, small though it was, had a strong social component.

Centralization within the FSM states is matched by centralization within particular atoll groups. Thus, on Ulithi atoll twelve islands were once occupied but, by 1949, only five were populated and the growth of Mogmog island was such that it was referred to as “a kind of ‘urbanization’ . . . I would like to venture the suggestion that the places being abandoned are villages with little opportunity, activity and excitement, whereas those that are expanding offer advantages in trade, education, medical facilities and recreation” (Lessa 1964, 43).

A comparison of other multi-island atolls elsewhere in the Federated States of Micronesia for which data are separately available indicates that the same trends also occurred between 1958 and 1980 on the atolls of Satawan and Namonuito (Chuuk), Woleai (Yap), and almost certainly elsewhere. Thus on a microscale the same processes were being replicated that occurred at state and national level throughout Micronesia.

### **Beginnings of Urban Life in Kiribati**

At the start of the 1960s there were already more than 5,000 people in South

## INTRODUCTION

Tarawa and foster-relatives living there were under considerable pressure to house and board both job-hunting immigrants and children sent to take advantage of superior educational facilities. A comprehensive study of urban Tarawa in 1968 recorded an increase in crime rates, problems of water supply and fears of the impact of a drought, and the erosion of the "Green Belt" in Betio, leading to negative outcomes for local food production and water pollution (Bedford 1968, 9–10). Already, problems of child malnutrition were being combatted by supplies of free milk powder and medical care. By the start of the 1970s South Tarawa contrasted dramatically with other parts of the country; although subsistence activities were maintained there, most people depended on cash incomes. It was estimated that three-quarters of all cash incomes in Kiribati were earned in South Tarawa and 93 percent of senior staff were located there (Hughes 1973). Not only was the town visibly and socioeconomically different from elsewhere in the colony, but its rapid growth and population concentration were creating problems: "Rapidity of urbanization has produced problems such as malnutrition; the urban population tends to be separated both from land for good crops and from access to fishing grounds. Moreover in urban areas local foodstuffs are expensive, so that family income is increasingly spent on nutritionally substandard items or cheap carbohydrates, especially such imported foods as rice, flour and sugar. Consequently infant mortality is high and the problem of dental decay is increasing. Drunkenness and crime are beginning to occur; sanitation and the pollution and inadequacy of water supplies are further difficulties" (Connell 1973, 403).

Even the 1973 census expressed concern at nutritional trends. One factor that acted to mitigate urban problems was the low level of overt unemployment, a function of the continued importance of food-gathering activities in the urban area. In 1968 Bedford found that the majority of those who were unemployed were not actually seeking work (1968, 4), while a survey of nearly 2,000 urban adults at the end of 1973 found that only 56 people (3 percent) were seeking a job (Connell 1983b). Although some of those in cash employment were working irregular hours with incomes that were probably

## THE CONTEXT OF URBANIZATION

inadequate for urban living, and the numbers of unemployed were beginning to grow (Fox 1976, 55), the crisis of urban unemployment had not yet arisen. Nevertheless even in 1968 Bedford was able to conclude "because of the peculiar physical features of the urban area and the limited avenues for settlement and employment South Tarawa cannot continue to support the ever increasing numbers" (1968, 49). Although the rate of urban growth slowed subsequently, twelve years later the urban population had doubled.

By the end of the 1970s, as Kiribati became independent, the social and economic problems identified at the start of the decade had all worsened. Unemployment remained at a high level and was increasingly apparent along with intensified related social problems. In South Tarawa the average household size in 1978 was 7.4 persons, compared with 5.6 in the outer islands, which meant that housing was more congested in town. Although the proportion of traditional housing is much smaller in South Tarawa, deficiencies in shelter are greater there than elsewhere in the country (Love 1982, 70–71) and there are very considerable differences in the quality of the housing stock.

At the start of the 1980s illegal settlement on water reserve areas in Betio was presenting problems for the Public Utilities Board. Furthermore, "shanty-town development was becoming a problem of increasing urgency in all three areas" of Betio, Bairiki, and Bikenibeu, primarily in terms of poor housing, sanitation, and the absence of amenities (Love 1983, 71), creating difficulties in public health and nutrition. The I-Kiribati custom of *bubuti*, whereby it is almost impossible for an individual to refuse a request, enabled reasonable access to land virtually throughout the urban area. Although only 22 percent of urban households had no facilities, compared with 67 percent outside the urban area, sanitation had become a severe problem because sewage was traditionally disposed of by tidal action on the beaches. An outbreak of cholera in 1977 emphatically demonstrated the link between inadequate sanitation and health. Other amenities in South Tarawa were also limited; a third of households used only well water and almost half were dependent on wood fires for cooking. A mains electricity cable stretched the whole length of

## INTRODUCTION

South Tarawa, but this form of power was too expensive for most households twenty years ago. In Bairiki in 1973 firewood was collected from the ground, but by 1978 young men were sent to climb trees to take down dry fronds before they fell—a clear indication of the declining availability of fuel (Bailey 1984). Meeting basic needs was exceptionally difficult for some urban residents.

The subsistence activities that characterized other islands in the Gilberts group were also readily apparent in South Tarawa; for both, agriculture and ocean and lagoon fishing were common. The eastern part of the urban area (Teinainano East) was generally less densely populated than elsewhere. Consequently the extent of toddy collecting, copra cutting, *babai* cultivation, and pig rearing was greater in this area and steadily decreased toward Betio, where population pressure on resources was extremely high. Similarly, firewood collecting and mat and basket making were more common in the eastern areas. However even in Betio 40 percent of households participated in coconut toddy tapping (compared with 83 percent on outer islands) although none produced copra (Love 1983). Between 20 and 25 percent of households in the rest of South Tarawa dried salt fish for storage. Overall, the degree to which “traditional” subsistence activities were maintained in South Tarawa indicated the general prevalence of self-sufficiency in the urban area itself, even to the extent of storing traditional foods. Thus, while South Tarawa was undoubtedly an urban area, its urban characteristics incorporated many features found in the most remote rural areas of Kiribati. There is no absolute contrast between urban and rural.

### **The Postindependence Era**

Although independence came relatively late to the small states of Micronesia, especially those that had been parts of the trust territory, what is unusual in this region is that the most rapid phase of urbanization was largely over, and rural-urban migration was giving way to natural increase as the main component of urban growth. In other regions of the Pacific a post-independence expansion in government spending and something of a boom in



## THE CONTEXT OF URBANIZATION

public sector employment for the educated elite and skilled workers was followed by growth in service sector jobs, but this phase of development was already over in most of Micronesia. Indeed the postindependence era has, in some respects, been a period of urban consolidation, though it has not enabled significant improvements in all aspects of urban infrastructure provision and not much attention has been paid to urban management.

In the absence of land-use plans and urban zoning, and because of limited “modern” development, many forms of urban differentiation are largely absent. In each of the urban centers there has been minimal concentrated high-value development until recently. High-rise structures are hard to find other than in the grand new government buildings of Majuro and the new international hotels in the middle of Koror; none were there before the 1990s. There are no real central business districts (other than perhaps in Tarawa) and few social divisions of the kind found in many western cities, though migrants—especially those from outer islands—are often clustered in particular areas. In some respects, particularly in the Federated States of Micronesia and Kiribati, the towns resemble collections of villages more than socially or economically differentiated suburbs. Concern over the extent of urbanization and its permanence (that the towns are not mere “communities of migrants”) has grown as a function of several factors: urban unemployment; degradation of environment and visual amenities; increasing urban crime rates and other social problems; and breakdowns in urban service provision and delivery, leading to the threat that some urban residents will not be able to gain access to basic services in the future. It is feared that the quality of urban life and the extent of inequality in urban areas may worsen.

The environmental aspects of urbanization have received greater prominence in recent years as much urban housing no longer meets standards imposed in colonial times, traffic problems worsen, and lagoons and open spaces become polluted with the wastes of consumer society. As consumption increasingly takes on more modern forms, so the demand for room to dispose of solid waste increases. At the same time where land remains under customary tenure, obtaining land for solid waste disposal (or almost any public

## INTRODUCTION

function) is difficult, and especially so in atoll environments. Appropriate landfill sites are often hard to find, volumes of waste have increased (recycling has had a limited impact), and hazardous waste such as electric batteries poses special problems. All urban centers are coastal, and the discharge of untreated sewage and other wastes into coastal waters, especially lagoons where mangroves have been cleared, not only puts fragile ecosystems at risk but reduces the productivity of subsistence fisheries and may contribute directly to food poisoning. Most countries have commissioned environmental studies of various kinds and several have strategy plans. The challenge remains, however, to put sensible recommendations in place under circumstances in which controls over development of any kind are exceedingly difficult to implement. Air pollution from vehicles and burning waste is a new phenomenon, as is noise pollution. Several towns occupy low-lying sites, parts of which are periodically swampy or at risk from natural hazards, posing problems for public health.

Planning of service provision has usually been piecemeal, ad hoc, poorly integrated, or simply inadequate, as the concept of physical planning is a novel idea in much of the region. In the poorer states a significant proportion of both rural and urban households is without piped and potable water or access to adequate sanitation or electricity. But here conditions have improved markedly in recent years and compare quite favorably with most South Pacific countries where financial resources for public infrastructure are very limited. Urban services in Micronesia were generally provided by line departments of the government, and of variable quality and extent of cost recovery, but the trend toward corporatization and the likely privatization of some utilities is now well established. This development has introduced greater levels of reliability, but the determination to achieve reasonable cost recovery in power generation in particular has led to steeply rising charges. A substantial proportion of water in urban supply systems is wasted or unaccounted for. Supplies are often contaminated and urban water is not potable or, as in Majuro, is frequently unavailable, while lens water is being used at rates above inflow. In contrast to difficulties with public utilities, in almost all towns

## THE CONTEXT OF URBANIZATION

transport services are efficiently provided by the private sector. The development of appropriate institutional mechanisms for urban service provision and delivery in circumstances in which much of the urban population is too poor or unwilling to pay for them is a major challenge to governments throughout the region.

As will be shown, a particular problem for Micronesian towns continues to be the resolution of customary land tenure issues in an urban setting. The large extent of private (communal) ownership of urban land in some of the countries has made it difficult to provide some forms of public development in the towns as well as making it hard for some residents to gain access to land. In the Marshall Islands, where there is no public land at all, physical planning is exceptionally difficult. Land is so scarce in Kiribati that reclamation of lagoons is seen as a way of providing the government with new sites for various uses, and in Majuro, Koror, and Kolonia some reclamation has also taken place.

Growth in most of the towns in the Pacific region is a result of government expenditure on infrastructure and administration. This weak economic base has placed those concerned with urban development and management in a difficult position. Urban public agencies have had great difficulty hiring and retaining qualified staff in the sector because of the small number of local engineering resources, in part a function of international migration and the limited capacity for planning and development. Urban physical planning, effective building codes, and land-use plans are in their infancy in Micronesia; the first of them are examined in some detail here. There are few workable policies in place for the resolution of the region's environmental problems, despite a comprehensive array of environmental management studies stimulated by the United Nations Conference for Environment and Development in Rio de Janeiro in 1992. This situation is of considerable concern in the atoll states of Kiribati and the Marshall Islands, which are particularly threatened by any greenhouse-induced sea-level rise (Connell and Lea 1992) that might produce environmental refugees or "canoe people."

In each of the states the tasks of urban management and planning are considerable, highlighted by the lack of robust municipal authorities and

## INTRODUCTION

adequate enabling legislation. There are usually limited financial resources for urban management activities in general, and poor or nonexistent coordination between service and delivery agencies, some of which are publicly owned and some private, operating at both national and local levels. Moreover, other than infrastructure reports, virtually no up-to-date studies focus on urban development issues, and very little is known about the socioeconomic status of most urban residents in Micronesia. With one or two exceptions discovered in the course of preparing this paper, the studies that do exist are several decades old or limited to particular, distinctive migrant groups. The present study constitutes an attempt to provide a basic understanding of the issues that confront urban management in the region today.

## Population, Migration, and Urbanization in Micronesia

Employment (or the search for it) constitutes *the* overwhelming reason for residence away from home . . . periodic employment off their home islands has become part of the expectations of most males. . . . The incentive to such temporary migration is definitely economic. The lure of bright lights and a desire to see new islands seem to play a relatively small part in motivating it.

William Geddes and others,  
*Rural Socio-economic Change in the Gilbert and Ellice Islands*

THE SIZE OF future urban populations is a function of both natural population increase in existing urban areas and rural-urban migration, though in certain contexts international migration may also play a part. In none of the four countries is migration to urban areas as important as it was in the 1960s, a period of exceptionally rapid population increase. The rates of natural population increase vary considerably among the Micronesian countries and within the separate states of the Federated States of Micronesia. The Marshall Islands has much the fastest population growth rate; by contrast Palau, where migration has been significant, is growing most slowly. Rapid growth rates have resulted in youthful population structures. In the Marshall Islands half the population today is under the age of fifteen, making it the most youthful in the Pacific region; the total fertility rate (TFR) in the 1980s was still 9 live births per woman, which was then quite possibly the highest in the world. These high growth rates have obvious implications for development planning in situations where population densities are already high (more than 240 per square kilometer in the Marshall Islands) and natural resources limited. Yet other than Kiribati—where the family planning program was once regarded as a model—none of the countries has given serious attention to population issues. Therefore the potential for continued rapid growth remains considerable.

Analysis of population change and migration in most of Micronesia has been

## THE CONTEXT OF URBANIZATION

constrained in the past by the lack of adequate data. As we have already noted, the first reliable census of the Trust Territory of the Pacific Islands was not undertaken until 1973 and was modeled on the US census. By contrast, there is reliable information on the population of Kiribati from the early decades of the twentieth century, although the most recent census is not without flaws (table 1).

Outside Kiribati there is scant information on contemporary birth and death rates, and the data that do exist on natural increase suggest generally high rates. There are no effective population policies anywhere and minimal availability and use of family planning services. The family planning acceptance rate in most parts of the region is estimated at around 10 percent of women in the target population, and many of this minority are acceptors at a very late stage in family formation. Estimates suggest that in the Marshall Islands the annual population growth rate may have reached close to 4.0 percent in the past decade, which is virtually a demographic impossibility. Both there and in the Federated States of Micronesia the rate is currently around 3.0 percent, though emigration from the latter has slowed the real growth rate to about 2.0 percent. In Palau the rate is estimated at 2.9 percent for the first half of the 1990s, but much of this was attributable to immigration. The growth rate is lowest of all in Kiribati, where the population was expanding at around 2.2 percent in the first half of the 1990s. All these growth rates are high in relation to the land areas and other resources of the Micronesian countries. An additional factor is the considerable immigration of foreign workers in Palau and the Marshall Islands; more than a third (34 percent) of Palau's work force, for instance, is from overseas, mostly from the Philippines.

Rapid increases in population are generally the result of marriage at an early age, the absence of effective family planning, and in the urban centers, an increase in teenage pregnancies. These factors have generated in a youthful population, great pressure on the education system, and a proliferation of health problems, particularly in the Marshall Islands. One outcome of the social disruption to which rapid population increase contributes are high suicide rates—among the highest in the world—for young males in the Federated States of Micronesia and the Marshall Islands.

POPULATION, MIGRATION, AND URBANIZATION

Table 1. Population Growth in Micronesia, 1900–1996

	Palau	FSM	Marshall Islands	Kiribati
1900	3,750			25,000
1920		30,902	9,589	
1930			9,960	26,416 <sup>a</sup>
1950	6,622	30,538	11,033	31,513 <sup>b</sup>
1958	8,845	37,368	13,928	
1967	11,365	50,172	18,925	47,735 <sup>c</sup>
1973	12,672	62,731	25,045	51,931
1980	12,116	73,160	30,873	
1988	14,200	96,000	43,380	
1990	15,220	100,520		72,298
1994	16,000	105,500	54,000	77,658 <sup>d</sup>
1996 <sup>e</sup>	18,000	110,000	56,000	80,000
Population density per square mile	35	150	240	90

Sources: Connell 1983a, 1983b, 1983c, 1983d; SPC 1994.

Notes: a 1931; b 1947; c 1968; d 1995; e estimates.

## The Demographic Structure

### Federated States of Micronesia

Early data on population change in the four FSM states are fragmented, incomplete, and unreliable. In postcontact times each state has experienced a phase of historic depopulation, none more so than Yap (Hunt, Kidder, and Schneider 1954), but throughout the Federated States of Micronesia

## THE CONTEXT OF URBANIZATION

depopulation was particularly marked, both on the atolls and on high islands. For example, in Pohnpei, a major smallpox epidemic in the late 1850s significantly reduced the population, and the men of Ngatik atoll were murdered by the crew of a visiting ship. Perhaps the most detailed evidence of depopulation is for Kosrae; not only was a postcontact population decline well recorded (from 1,106 in 1855 to 397 in 1874), but significant precontact depopulation, principally caused by typhoons (and resultant starvation) and warfare, indicates that the population was not necessarily in equilibrium before contact (Ritter 1981, 22–24). On many islands throughout the Federated States of Micronesia labor migration resulted in population decline in several places. Atolls have been characterized by unstable populations (Lessa and Myers 1962), demonstrated in historic population fluctuations on Ulithi, Lamotrek, and Woleai (Alkire 1978, 32–39). In early postcontact years there was little population growth, even during the Japanese colonial period (table 2). In several places therefore it was not until some time after the Second World War that populations passed their precontact levels; on some atolls, such as Woleai, that has never happened.

Since World War II population growth has been slowest in Yap, where it only doubled between 1958 and 1994, a growth rate of no more than 2 percent per year. Historically on Yap, there were exceptionally long postpartum taboos on intercourse, perhaps as long as seven years (Pitt 1976, 45). The population is growing more slowly on Yap proper than in the outer islands, though there are significant variations between islands as well. This pattern contrasts with the other three FSM states, where growth in the outer islands has been much slower than at the center because of various features of remoteness, although the overall population more or less tripled in the same period. At the end of the 1970s Kosrae was growing most rapidly, principally because of return migration after it became a separate state in 1977. Growth rates on outer islands also remained low because of migration to the urban centers. In Pohnpei, for example, the rate between 1958 and 1980 was 7.4 percent but that for outer islands was only 0.4 percent. On Chuuk, where outer islands were considered more “traditional” and employment opportunities at the center were poorer, the difference was less substantial.



## POPULATION, MIGRATION, AND URBANIZATION

Table 2. Population of the Federated States of Micronesia, 1920–1994

	FSM Total	Yap	Chuuk	Pohnpei	Kosrae
1920 <sup>a</sup>	29,660	8,338	14,788	5,748	786
1935 <sup>a</sup>	29,920	6,006	15,129	7,596	1,189
1950	30,358	4,717	15,617	8,159	1,865
1958	37,368	5,540	18,065	11,253	2,510
1967	50,172	6,761	25,107	15,044	3,260
1970	56,570	7,020	28,540	17,390	3,620
1973	62,731	7,870	31,609	19,263	3,989
1977	71,967	8,150	36,562	22,524	4,731
1980	73,160	8,100	37,488	22,081	5,491
1994	105,506	11,178	53,319	33,692	7,317

*Sources:* Connell 1983a; FSMOPS 1996.

*Note:* a Data for indigenous population only.

There are few reliable data on changes in birth and death rates for the Federated States of Micronesia, although the crude birth rates (CBR) were recorded at 31.5 per thousand in 1973 and 33.5 in 1980, while crude death rates (CDR) changed from 4.2 to 4.9 per thousand over the same years (Weital 1982). Both sets of figures were almost certainly too low. At the time of the 1994 census the crude birth rate was 31.4 per thousand but had fallen from 33.3 a few years earlier. Nevertheless, this is a high fertility rate and one very similar to that in Kiribati. The total fertility rate was 4.6 live births per woman, again a relatively high figure. Fertility was lower for educated women and for those who were in the workforce but the latter number is not currently increasing. At the same time the crude death rate was estimated at about 8 per thousand (but accurate calculation was impossible), and life expectancy increased by about five years between 1973 and 1994. The infant mortality rate (IMR) of about 46 per

## THE CONTEXT OF URBANIZATION

thousand was extremely high, though slightly lower than the rates in Kiribati and the Marshall Islands. In all these states infant mortality rates are unacceptably high, with the most recent FSM census concluding that "the high level of infant mortality should be a real worry for FSM policy makers, particularly in the health sector" (FSMOPS 1996, 43). As elsewhere, this situation points to the continued potential for more rapid population growth in the future.

The FSM population is also extremely youthful with 49.0 percent of the population age fourteen or under in 1980; this proportion varied from 50.0 percent in Kosrae, the fastest growing state, to 44.0 percent in Yap. By 1994, 43.5 percent of the population were age fourteen or under (FSMOPS 1996, 13). Yap remained least youthful, with 40.0 percent under fourteen years; Chuuk had become the most rapidly growing state in the Federated States of Micronesia, with 45.0 percent under fourteen. There appears to be no information on the extent of modern family planning in the Federated States of Micronesia, although it has been noted that "the majority of the FSM families are not considering family planning due to such factors as lack of knowledge, and the notion that it contradicts traditional beliefs" (Weital 1982, 7-8). A 1971 survey found very little knowledge and even less practice of modern contraceptive techniques throughout the Federated States of Micronesia (Wolff and others 1971) and very strong opposition to the extension of family planning (Fox 1976, 160-161). At the 1994 census access to family planning services was still very limited, especially in the outer islands, though accurate data are lacking.

### **Kiribati**

From the mid-nineteenth century there are estimates of the population of Kiribati at about 50,000, though this may be too high by 20,000. The arrival of Europeans around that time resulted in population decline as a result of the combined effects of introduced diseases, guns, and the human labor trade (Bedford and Macdonald 1983). For the nineteenth century as a whole the most important influence on population growth by far was international labor migration, which resulted in a loss of population from Kiribati, especially for some of the small

southern islands. The population continued to fall until around the early 1920s, when the census recorded the lowest total for Kiribati, but from then on it grew steadily (table 3).

In the second decade of the twentieth century and the early 1920s administrators feared that population decline would lead to depopulation of some of the islands. But by the 1930s, such steady growth was evident that the administration grew concerned about overpopulation of some of the drier islands in the south, and a search for resettlement islands was begun. With the end of the war in 1945 growth rates increased again; development expectations had been raised by the US military presence. In the interwar years the crude birth rate for the whole of the Gilbert and Ellice Island Colony was approximately 35–37 per thousand, a situation that lasted until the war finished. Between 1947 and 1968 the crude birth rate increased to a very high level of around 45 per thousand before dropping to about 35 per thousand in 1978. In the 1980s and 1990s the crude birth rate dropped no further and actually increased a little between 1985 and 1990, from 35 to 37.5 per thousand. The total fertility rate fell from around 7 live births per woman in the 1960s to around 4 in the 1980s—being 3.9 at the time of the 1990 census—but appears to have increased again to over 4 in the 1990s.

The fall in fertility at the end of the 1960s coincided almost exactly with the establishment of a family planning program in Kiribati, suggesting some relationship between the two events. Family planning began in earnest in 1968, and in the First Development Plan the administration stated that “the first priority in the first year of the Plan period (1970–72) is to devise and implement the first stage of a major program for the control and reduction of the rate of population growth” (cited by Macrae 1983). A survey at the time concluded that most men thought four to six children were sufficient to guarantee security in old age, so lower family sizes were found where the market economy predominated or where there were land shortages. Fertility decline was greatest in the Protestant islands where population densities were highest (Geddes and others 1979, 26). In 1980 a United Nations Fund for Population Activities mission concluded that for various reasons, including male resistance, religious objections, shortage of supplies, and misinterpretation, the family planning program was largely unsuccessful (UNFPA

## THE CONTEXT OF URBANIZATION

Table 3. Population of Kiribati, 1852–1995

1852	about 46,500
1861	about 50,000–54,000
1871	about 39,000
1892	about 26,430
1901	about 24,696
1911	25,133
1922 <sup>a</sup>	23,224
1931	26,416
1947	31,513
1963	43,336
1968	47,735
1973	51,931
1978	56,213
1985	61,883
1990	72,335
1995	77,658

*Sources:* Connell 1983b; KSO 1993.

*Note:* a Indigenous population only.

1980, 27–28). In 1982 the newly elected government reestablished the Ministry of Health as the Ministry of Health and Family Planning, a designation that indicated a new determination to promote reductions in the birth rate. At that time just under 20 percent of women in the 15–44 age group were practicing family planning, with acceptance rates highest in the poorer southern islands (Connell 1983b, 20). Since then there has been no indication that the proportion

of acceptors has increased; the early success of the family planning program has not been maintained (Emberson-Bain 1995). Family planning absorbs less than 1 percent of the national budget. Its high priority in theory is not reflected in practice, and although 27 percent are official acceptors the actual proportion is probably about half that.

The most striking feature of the current age distribution of the population is its youthfulness, attributable largely to the high fertility level. In 1995 some 41 percent of the population were aged fourteen or under; in urban South Tarawa the proportion was 39 percent. At a national level this was exactly the same proportion as in 1978, suggesting limited demographic change in the past two decades and considerable potential for a continued high population growth rate.

Preliminary results from the 1995 census put the national population at 77,658, an increase of 6 percent from 1990. If the census is accurate, it would suggest some slowing of the population growth rate. Doubts have been expressed, however, about the accuracy of the census, which may represent a significant undercount. The census indicated that the population of South Tarawa had reached 28,350, but the real total was probably closer to 30,000. According to the census the most rapidly growing atoll was Kiritimati with 3,225 people, and the Line Islands had a total of 5,818, a considerable increase from the 4,782 in 1980. By contrast the three southern atolls of Arorae, Tamana, and Onotoa were losing population. Although these drought-prone islands have experienced development problems, an absolute decline seems improbable. Nonetheless the 1995 census does suggest some stabilization of the I-Kiribati population and a continued though slight shift from the Gilberts to the Line Islands.

### **The Marshall Islands**

The early history of population change in the Marshall Islands is poorly known. The earliest estimate of the population of the whole country was 7,600 around 1890, although another estimate at the same time put the population at 15,000. There appears to be no evidence of population decline in early postcontact years, but in German times, especially after 1900, the population did begin to decline following the introduction of such diseases as dysentery, influenza, and venereal

## THE CONTEXT OF URBANIZATION

disease (Rynkiewicz 1972a, 29, 169). Rough estimates of the population in the Marshall Islands before German occupation suggest a total of around 15,000 to 16,000. During the German period this fell to between 12,000 to 13,000, largely as a result of the new diseases. The official population figure in 1909 was 9,267, and in 1913 it was 9,546 (Wiens 1962, 465). The first reasonably reliable measure of the total population are the initial figures from the Japanese period, when the total population was recorded at 9,960 in 1930 (table 4). Jaluit, the district center, had a population of 2,173, Arno had 1,055, and the next largest populations were recorded on Kwajalein (977) and Majuro (753) (Rynkiewicz 1972b, 16–17). “By 1939 it was clear that the population decline in the Marshalls had come to an end” (Wiens 1962, 465) but it was not until around 1960 that the population of Marshall Islands reached its precontact level. This slow recovery was similar to that in other parts of Micronesia, reflecting limited economic development and poor access to medical services in the region. Since then, however, population growth has been exceptionally rapid. In approximately twenty years, between 1960 and 1980, the population doubled and subsequently has almost doubled again. The Marshall Islands has one of the most rapidly growing populations in the world.

At the time of the 1988 census the annual population growth was 4.2 percent, the highest rate in the Pacific region. Although this was reportedly “a matter of grave concern for the Marshallese” (UNCHS and UNDP 1994, 103), there was still no obvious indication that concern was being translated into action. The crude birth rate of 49 per thousand and the total fertility rate of 7.2 live births per woman were also the highest in the region, with the birth rate considered to be the second highest in the world. In a very small island state, with scarce land and other resources, sustained rates at these high levels will pose exceptionally difficult problems for human resource and economic development. Not surprisingly, the population is very youthful.

Traditional controls over population growth have broken down following the establishment of colonialism, the decline of traditional leadership, and increasing mission influence. Populations are much higher than the levels local resources are

POPULATION, MIGRATION, AND URBANIZATION

Table 4. Population of the Marshall Islands, 1920–1988

1920	9,589
1925	9,422
1930	9,960
1946	9,815
1950	11,033
1958	13,928
1967	18,925
1970	22,888
1973	25,045
1977	25,455
1980	30,873
1988	43,380

*Sources:* Connell 1983c; MIOPS 1989.

perceived as sufficient to support, and even in 1968 it was being argued that on the atoll of Namu there was inadequate local food for its residents (Pollock 1972, 26). On the urbanized atolls of Kwajalein and Majuro densities are extremely high and increasing rapidly. The overall Marshall Islands density was 240 persons per square kilometer in 1988, which is very similar to the 1990 figure of 236 for the Gilbert Islands chain of Kiribati. It is extremely significant that since the 1930s there have been resettlement programs for the Gilberts. The absence of resettlement potential in the Marshall Islands is indicative of the various serious problems that population growth rates pose there.

Until the 1980s, there was very little information on population change in the Marshall Islands or on the availability and use of planning services. As a 1982 government study commented, “Until recently, concern over population issues in the Marshall Islands was sporadic and disorganized, consisting largely of

## THE CONTEXT OF URBANIZATION

individual expressions of dismay by people in both the public and private sectors at increasing concentrations of population in the urban areas” (Republic of the Marshall Islands 1982, 1). In that year the government established a Task Force on Population Awareness, an indication of the new interest in the issue, and during the 1980s some evidence indicates improved access to family planning services. Indeed, at the end of the 1980s a relatively high rate of family planning practice was recorded, with 31 percent of women being acceptors (UNCHS and UNDP 1994, 104), although the figure may be erroneous. Family planning programs will continue to be difficult to implement as long as having a child enables a woman to gain adulthood, no shame is attached to single motherhood, and adoption plays an important role in Marshallese society.

At the end of the 1980s there was some evidence that, at long last, the demographic structure of the Marshall Islands was changing and that the population growth rate was slowing. A more aggressive family planning program—employing the Norplant contraceptive—and vigorous community health education were beginning to have an effect. In 1989 the Marshall Islands had almost 35.0 births per thousand people, but by 1993 the rate had fallen to 23.5. If that decline is not an aberration and can be sustained, it will represent one of the most remarkable declines in a birth rate to have taken place without significant changes in the economy.

### **Palau**

In no other single country in the island Pacific is so little known or recorded about population history and structure as in Palau. At the end of the eighteenth century the population may have been as high as 40,000, but the arrival of Europeans and the introduction of diseases led to a very rapid decline. Many villages were abandoned and in 1901 the German administration estimated the population at about 3,700. The estimates available for the prewar years (table 5) suggest that the indigenous population was increasing before hostilities commenced in 1942, possibly fell during the war, and grew slowly again from the early 1950s. Even these generalizations are not confirmed on the basis of the available data, and firm figures only appeared after modern censuses commenced



POPULATION, MIGRATION, AND URBANIZATION

Table 5. Population of Palau, 1900–1986

1900	3,750 <sup>z</sup>
1930	8,101
1938	22,077 <sup>a</sup>
1950	6,622
1954	7,726
1958	8,845
1963	10,280
1967	11,365
1970	11,210
1973	12,672
1977	12,911
1980	12,116
1986	13,873

*Sources:* Connell 1983d; POPS 1987.

*Note:* a Includes 6,377 native Palauans.

in 1980. Similarly, traditional attitudes toward family planning, population growth, and migration have never been documented.

In contrast to other Micronesian countries, the population of Palau has grown relatively slowly because of sustained emigration. Estimates suggest, however, that the population has increased recently to a national total of around 18,000 in 1996. The average annual growth may now be about 2.8 percent but the crude birth rate is around 2.2 per thousand, suggesting a slow fall in the 1970s and 1980s, with a total fertility rate of about 3.1 live births per woman (SPC 1994); the crude death rate has been estimated at 12.0 per thousand.

If these figures are accurate (and there are no demographic studies to base them on), the population of Palau is likely to grow much more slowly than

## THE CONTEXT OF URBANIZATION

populations elsewhere in Micronesia, unless immigration continues at a high level. Though less youthful than elsewhere in the region, Palau's population is fairly young, with 35 percent under the age of fourteen. Similarly, population densities in Palau are much lower than in the three other countries.

### **Migration in the Region**

The overwhelming trend in migration throughout Micronesia has been the increasing concentration of population on the high islands of Koror (Palau) and Yap, Chuuk, and Pohnpei (Federated States of Micronesia), and on the atolls of Majuro and Ebeye (Marshall Islands) and South Tarawa (Kiribati). By 1980 the urban area of Koror held around 63 percent of Palau's national population, and in 1988 the two atolls of Majuro and Ebeye had 64 percent of the Marshallese total. No other countries in the island Pacific have urban concentrations to match these. In the Federated States of Micronesia and Kiribati the clustering is not so extreme; less than half the population lives on the central islands in each component state (except Kosrae where there is no real urban center). But in Kiribati, too, the population of South Tarawa has grown at the expense of the outer islands, despite a series of policies to reverse this situation. The potential for a successful rural and outer islands policy may be greater in the Federated States of Micronesia than elsewhere in the region.

Micronesian populations are also increasingly concentrated on particular islands; generally the smallest and most remote areas have lost people while the larger atolls and islands have retained and gained them. This is particularly true of Palau. The picture is distinctive in the countries where atolls have experienced considerable emigration, as remaining populations struggle to satisfy basic needs while expectations continue to increase. Migration has become the safety valve for atoll overpopulation, with the smallest atolls likely to lose the most population though failing to sustain an acceptable standard of community life. The trend appears inexorable as postwar growth rates have increased along with desires for consumer goods and expectations for employment and education, and the boredom of atoll life has made young people long for a "slice of the action"

(Hezel 1976, 112). It is not surprising in these circumstances that many atoll people have now established permanent communities in the towns of the central islands across the Pacific and even outside the region.

The search for employment drives most migration. Possibilities of finding a job underlie apparently more casual motivations such as education, which is the precursor to most wage employment. Moreover, many migrants who are not employed are the relatives of those who have found work and find it possible to survive in the towns as a result. The colonially inspired education system was not without fault in providing training appropriate only for white collar work and in failing to promote a value system conducive to agriculture or manual forms of labor. Until very recently an internal brains and skills drain has been fueled by the search for government jobs, and for Palau and the Federated States of Micronesia this movement has now become international. For Kiribati migration overseas for employment began in the nineteenth century and has steadily increased in more modern times. Such movement has had identifiable negative effects, including an increase in dependency ratios in small islands since most migrants are young.

### **Migration in the Federated States of Micronesia**

Migration has a long history in the Caroline Islands. One of the earliest statements about the central atolls dates back to 1664 when some 30 Carolinian canoes drifted to the Philippines; missionaries in the Philippines were told by the voyagers that the islands from which they came were "as populated as an anthill" (Krämer 1917, cited in Alkire 1978, 31). The traditional voyaging response to overpopulation may have been fairly common, since this group was reported to have come from some 50 islands. (Moreover, at times of overpopulation on the more isolated atolls like Kapingamarangi people resorted to abortion, postponement of marriage, and lengthening of time between pregnancies [Emory 1965, 155-156, 174]. Such population controls are now uncommon everywhere.) In Kosrae, whose contact history is probably typical, there were five migratory stages: first, a partly precontact era of traditional canoe voyaging; second, from 1852 to 1890, work on whaling ships with a minimal degree of "blackbirding" and depopulation; third, from 1880 to 1914, the German period when migrants

## THE CONTEXT OF URBANIZATION

left to work in phosphate mining in Nauru; fourth, from 1914 to 1944, the Japanese period when migration was "a nearly universal experience for adult men" and; fifth, the postwar era when most migrants went to Pohnpei for education rather than seeking work (Ritter 1980). While things were actually more complex in postwar years, this sort of periodicity fits the wider Micronesian experience.

Natural hazards have been significant in FSM migration history, demonstrated in the nineteenth century movements by Carolinians to Saipan and the Northern Marianas in order to escape the impact of typhoons around Satawal. One atoll affected in this way might have been Olimarao, devastated early in the nineteenth century and never repopulated (Alkire 1978, 229). In 1907 a major storm ravaged the Mortlock Islands, and the German administration responded by relocating large numbers of the "environmental refugees" on Pohnpei and Saipan where the new communities have subsequently become centers of opportunity for the islanders (Marshall 1976, 39). Population distribution has also been significantly altered by droughts such as that of 1916–1918 in Kapingamarangi, which stimulated much migration as "individuals and their families were offered the chance to go to Ponape and get work and wages as an alternative to starving at home" (Lieber 1968, 7). Migration in the Federated States of Micronesia as a whole has probably been affected by natural hazards more than anywhere else in the Pacific. Even today environmental disasters can only be mitigated by economic systems that encourage diversity and a form of administration that enables flexible responses and the possibility of resettlement.

The characteristic recent pattern of migration in the Federated States of Micronesia has been one of movement from outer islands to the central high island, and primarily to the urban center (except in Kosrae where there are no outer islands and where the Tofol area has not acquired urban status). Migration in the 1980s was less substantial than in the two preceding decades though it took the same basic form. By 1980 there was clear evidence of increasing return migration to home islands from the centers. Education had become more expensive and no longer guaranteed secure employment after graduation, and urban unemployment was increasing (Gorenflo and Levin 1995). Lifetime migration emphasized Pohnpei as a destination, though the majority of FSM residents lived

## POPULATION, MIGRATION, AND URBANIZATION

in their state of birth and 82 percent had lived in the same municipality since birth. In the 1989–1994 period the most significant interstate migration was from Kosrae to Pohnpei. Other states lost proportionally fewer migrants than Kosrae; Pohnpei was the only state to have a positive migration balance.

By 1994 some of the outer islands had lost the majority of their populations. Fewer than 50 of the 1,039 people born in Kapingamarangi lived there (543 were in Kolonia). Similarly there were fewer than 315 Pingelapese on the home atoll and more than 700 in Pohnpei (mainly in Sokehs). For Mokil (Mwokilloa) the situation was even more extreme, with fewer than 200 of 1,200 Mokilese living there. In Chuuk there are some similarities, with more migrants from the Mortlocks in Weno than there are at home, but the census data are less fine grained. Primarily in Pohnpei, to a considerable extent in Chuuk, and less so in Yap, there has been steady migration away from outer islands, but of a kind that is unlikely to increase in future, as public service opportunities decline. Nevertheless there is already evidence from Kolonia, in particular, of local resentment directed toward Chuukese settlers who may have assumed *de facto* ownership of some urban lands (*FSM News*, 1 January 1996). Previously, the most important of such interstate migration was between outer islands along the artificial state boundary between Yap and Chuuk. The recent establishment of the federal capital of Palikir in Pohnpei has encouraged further national movements but involving quite small numbers at this stage.

In Chuuk the structure of migration that had become established by the 1960s was similar to that of Pohnpei but with little movement from the lagoon islands closest to the center and most coming from the outer islands. By 1973 some atolls—Losap and Kutu—lost half the population born there, but outmigration rates were much lower than those in Pohnpei. There has been little migration in Yap compared with elsewhere in the Federated States of Micronesia, and almost none within Yap proper (the four high islands) apart from minor movements to Colonia from less accessible areas such as Rumung. Most urban migration of Yapese has come from the outer islands, but in contrast to Pohnpei, the larger and less densely populated atolls have retained and actually gained in population. This is particularly true of Ulithi which contained the Outer Islands High School.

## THE CONTEXT OF URBANIZATION

Until very recently there has never been any administratively sponsored resettlement within Yap proper or in Colonia, so that unlike the outer islanders of Pohnpei, potential migrants are confined to the overcrowded settlement of Madrich. Here the Catholic Mission had made a small site available for outer islanders seeking medical attention at the hospital, but deteriorating living conditions have led the government to purchase a site at Deboch in Tomil Municipality where a community center has been provided. In mid-1996 some 40 outer islanders were engaged in constructing their own housing at Deboch, and the state government would like to encourage more to move there when their temporary (four-year) tenure on government housing in Yap proper expires and they are required to vacate.

There has been little internal migration on the larger central islands of Yap and Pohnpei; those living away from the urban center tend to commute on a daily or weekly basis. Outmigration from Kiti, the most remote municipality on Pohnpei, was slowed when an access road was provided. Commuting of this kind enables islanders to retain contact both with traditional culture and lifestyles and with the agricultural economy; it has been said that being able to commute places such workers in a position superior to that of the permanent migrants from the outer islands who are more likely to experience loss of culture. But there are dangers in oversimplification here; contrary opinions based on anecdotal evidence suggest that the construction of the perimeter island road and other improvements that followed, such as the provision of electricity, though they might assist commuting, simply hastened the breakdown of rural lifestyles.

### **Migration in Kiribati**

In the interwar years internal migration was limited, localized, and mainly occurred in response to natural hazards and local overcrowding. By the 1960s a flow had started from some of the southern islands—notably Maiana, Kuria, and Nonouti—to South Tarawa, and by 1963 more than half the population on Tarawa had been born elsewhere. This was an indication that urbanization was well underway; by 1968 only 36 percent of South Tarawa residents were born there. The principal sources of migrants were the nearest atolls—Marakei, Abai-

ang, and Maiana—though Butaritari and some of the other southern atolls were also important sources. In the 1970s the same basic pattern continued; in 1973, 75 percent of Tarawa residents claimed that their home island was elsewhere. Most migrants came from the more impoverished southern islands and by the end of the decade some such islands, notably Arorae, were actually losing population.

Another strand of migration to the remote Line Islands became important in the 1970s when the three northernmost ones experienced the greatest rates of population growth in Kiribati, though this was from a very small base. In 1968 Fanning Island plantations abandoned regular recruitment and encouraged existing laborers to make the island their home. On Kiritimati the same policy was adopted and in 1982, half-acre plots were made available to those who had been working on the island since 1970. These developments had the effect of introducing population stabilization and later, growth, in the Line Islands. After the closure of the Banaba phosphate mine in 1979 the Line Islands (and also Tarawa) became even more important as migrant destinations. Otherwise the principal structures of migration were firmly established by the 1970s, with a steady movement from the outer islands to Tarawa, and some movement from the more to the less densely populated atolls. This movement has never changed, but has slowed and diversified to the Line Islands.

The 1995 census, despite its imperfections, suggests that established trends have been maintained and that migration is of declining significance. There has been continued movement away from the Gilbert Islands group, especially the three southernmost atolls; continued growth of South Tarawa (as much from natural increase as from migration); and the slower growth of the Northern Line Islands because of resettlement. As in the rest of Micronesia the most rapid phase of rural–urban migration is over, though steady urban growth continues to put enormous pressure on the limited resources of South Tarawa.

While there is a strong social basis of kinship ties in Kiribati migration, economic issues usually lie at the heart of decisions to leave outer island atoll communities—a situation that has existed for many years (Geddes and others 1979). The broad and basic economic differences between the outer islands and the principal areas of wage employment are perhaps greater in Kiribati than

## THE CONTEXT OF URBANIZATION

anywhere else in the Pacific, and as expectations have risen, so the economic rationale for migration has increased. The principal reason for moving both within the country and to destinations elsewhere is the severe limitation of wage and salary earning opportunities in the outer islands or even the prospect of any in the future. As long ago as 1978 South Tarawa accounted for 55 percent of all male employment in the country. Moreover this situation means that cash to purchase capital goods can usually only be obtained through employment outside home islands; "coupled with household dependence on remittance income [this] provides a powerful incentive for ensuring that young adults are strongly encouraged to obtain wage labour off the home island" (Geddes and others 1982, 94). Nothing has changed in the years since independence except that the task of finding an urban job has become more difficult, especially for the unskilled.

Educational achievement has been an important means of obtaining off-island employment for children. They are sent to Tarawa on the assumption that places in secondary schools are more easily obtained from there than from a home island (Geddes and others 1979, 84). Other more diffuse social reasons also play their part in rural-urban migration. On Abemama, for example, would-be migrants stressed the urban attractions of "island nights," the cinema, and opportunities to seek wives and see new things in town; "few people were known who had returned to their home villages and did not wish to return to Tarawa" (Watters with Banibati 1977, 129-130). Even seemingly trivial social changes should also not be underestimated: "There are cases on record where, for want of a few guitar strings, the cohesion of an entire village has virtually disintegrated because their principal means of expression had disappeared" (Pitchford 1981, 12-14), stimulating outward migration.

While the principal impact of migration in Kiribati has been to change the spatial distribution of the population, the main reason for moving is to earn a regular cash income, some of which can be saved and some remitted for use in home island communities. Remittances make an invaluable contribution to rural incomes and are greater in volume in Kiribati than in most other parts of the Pacific (Connell 1983b, 45-47). They have been crucial in allowing an acceptable standard of living to be maintained on outer islands.



### **Migration in the Marshall Islands**

The overwhelming trend in the Marshall Islands is the concentration of people on the atolls of Majuro and Kwajalein. Since the mid-1960s, growth in those atolls has been so much faster than elsewhere that almost two-thirds of the national population lived there in 1980. This represents a degree of concentration unparalleled in the other main Pacific Island atoll states of Kiribati and Tuvalu, though each of these has only one urban center. Internal migration in the Marshall Islands has been greater than in any other part of Micronesia since World War II. Prior to the war, in 1935, the two atolls had populations of about 1,800, but both began to grow strongly from 1950 when Majuro (Darrit-Uliga-Dalap) became the administrative center and Kwajalein was turned into a US missile testing range. Migration to these two urbanizing atolls has dominated all other kinds of population movement in the country.

In addition, some unique internal population movements have occurred in the Marshall Islands: in the 1940s the inhabitants of Bikini and Enewetak were resettled after nuclear tests were carried out in this part of the Pacific. These proved to be only the first moves in what was to become a long and still unfinished saga for these island people, and one whose misery has been documented in some detail for the Bikini population (Kiste 1968; 1974; 1977; 1983; Mason 1954; Weisgall 1980). Bikinians are still seeking a permanent home other than on Kili, and remain "nuclear nomads." For most of the larger atolls there has also been a postwar concentration on one or two of the more central islands as a result of the clustering of churches, schools, and stores in one district (Rynkiewicz 1972b, 30). This concentration, which also occurs in places like the Yapese outer islands and Kiribati, parallels other trends in migration as rural populations increasingly demand better access to more central, modern resources. Inevitably this results in a diminished ability and inclination to harvest traditional foods and other materials from lagoon, land, and sea.

One of the most striking characteristics of population movements in the Marshall Islands is the unusually high level of mobility between outer islands and Majuro, resulting in occasionally substantial fluctuations in the numbers on

## THE CONTEXT OF URBANIZATION

particular atolls. Motives for these constant movements include education, health care, social visits, and purchase of goods, and they are facilitated by improved air links. As in other states the powerful attractions of the urban centers appear to outweigh any disbenefits in the eyes of outer islands migrants. In any event most Marshallese are now likely to have relatives in town and this alone provides reason for moving and for remaining once the change has been made. Moreover, in contrast to many other parts of the Pacific, social motives for moving, especially the "bright lights," seem to be attributed more significance in the Marshall Islands than elsewhere (Connell 1983c, 21-22). When Majuro is often choked with traffic and no cars exist on some outer islands, such relativities become clear. In general terms, "life on the small coral islands is always somewhat monotonous. One day differs little from the other. There is little opportunity for individuals to find relief from the faces they see every day, and tensions, stresses and animosities which develop between individuals or groups are not easily dissipated. There is a lack of entertainment and recreational activities which might break the monotony and divert attentions from everyday concerns and problems" (Kiste 1968, 320).

Migration has resulted in substantial population increases in the two main islands and is commonly blamed for the emergence of social problems connected with overpopulation, unemployment, nutritional change, and so on. The problems experienced because of overcrowding on Ebeye (see below) prompted several direct attempts to persuade people to return to their home atolls. In 1967 the Trust Territory High Commission issued an executive order limiting migration to Ebeye and stating that all persons living on Kwajalein but not born or working there should return to their home islands (Pollock 1975, 262). But subsequent population growth indicated that the edict was inadequate since it did not provide effective controls or sanctions. Subsequently an "Operation Exodus" program was put in place to reduce numbers from some 4,500 to between 3,000 and 3,500; encourage family planning; and increase per capita incomes by reducing population and maintaining full employment (Vitarelli 1967). The population of Ebeye did fall but only temporarily (Connell 1983c, 25-26). In 1975 a new exodus program saw a few hundred of the unemployed voluntarily return to outer

islands in response to "persuasion" by clan leaders (*iroij*). Forced removal is not an option in a country where freedom of movement is a major political issue. Legal action has been taken against some non-Kwajalein residents overstaying short-term visits, but decentralization works better through incentives, if it works at all.

Internal migration followed the same pattern in the 1980s as in earlier years although its extent appeared to be falling. Thus between 1980 and 1988 there was further movement to both Majuro and Kwajalein; several atolls experienced absolute declines in population (Aur, Ebon, and the special case of Rongelap); and, other than the two main islands, only four atolls (Enewetak, Jabat, Mili, and Ujae) experienced more immigration than emigration. High rates of natural increase enabled most atolls to record population growth; otherwise they would have experienced population losses. Indeed, by 1988 just one atoll, Enewetak, had a positive lifetime migration status with respect to Majuro. Over the eight-year period Majuro had a net immigration of 1,429, indicating that the movement was slowing considerably. In Kwajalein the net migration of only 187 showed that growth was now occurring mainly through natural increase. Today, as elsewhere in Micronesia, it is natural increase rather than migration that has become the principal cause of urban population growth and the resultant problems.

### **Migration in Palau**

Little is known of early migration movements in Palau. The establishment of the German phosphate mine on Angaur resulted in substantial labor migration into the country; the first workers were Chinese, followed by Caroline Islanders from other parts of Palau, Yap, Chuuk, and nearby atolls (Firth 1978, 44–50). In the interwar years the Japanese continued to import labor to the phosphate mines on an increasing basis as two new operations, including one on Peleliu, opened. Again many were Japanese and Chinese but Micronesians were also brought in as cheaper labor (Purcell 1976, 193–194).

Not much is known about migration in the early postwar decades until the 1973 census revealed that there had already been substantial rural–urban migration to Koror, to the extent that the town had a relatively long-established popu-

## THE CONTEXT OF URBANIZATION

lation. Of the 7,200 Micronesians then resident, some 56 percent were actually born in the town, forming an unusually stable urban population. This meant that fully a third of the national population was born in Koror, making any attempts to decentralize extremely difficult. All the other states (formerly called municipalities) of Palau have high proportions of locally born and none appear to have more than 19 percent born elsewhere. In dramatic contrast, the three states of Angaur, Peleliu, and the remote atoll of Tobi had already lost more than half their locally born populations, and the largest island of Babeldaob retained the largest proportion of the population. Overall, the pattern was of substantial lifetime migration from almost all parts of Palau and almost all of that was to Koror. Although this pattern has persisted, in recent years the volume of movement has slowed.

Movement out of the remote southwest islands has been particularly substantial. That it has not been even greater may be a function of social and ecological distinctiveness: the language is different from Palauan, and discrimination in access to land and employment in Koror is a disincentive to migration (McKnight 1977). In 1970 the atoll of Pulo Anna had a population of nineteen, of whom nine were age 10 or under and two were over 70, producing a very high dependency rate (Boucher 1971, 31). On the atoll of Merir, the entire population has died or migrated. The final phases of the small community on Merir were vividly recorded in 1954: "the island is dying, at least as far as the present generation are concerned. . . . The women are too old to cultivate taro in any quantity and the men cannot keep the coconut groves cleared" (Osborne 1966, 49). Total depopulation such as this is an extremely rare event in the contemporary Pacific; on many other small islands in the Pacific the prediction of extinction has long preceded the event. Yet the pattern of decline in small outer island communities is well exemplified in Tobi, Merir, Sonsorol, and Pulo Anna, as the movement to Koror continues.

Migration to the main urban center and overseas has left many of the states of Palau with populations heavily biased toward the very old and the very young. Even by 1955, "the growth of population in Koror has resulted in overpopulation in one municipality and a corresponding depopulation in others. Outlying municipi-

## POPULATION, MIGRATION, AND URBANIZATION

palities are being drained of valuable members of their populations. . . . Emigration has resulted in shortage of manpower and social participants as well as tax income in many municipalities" (Force 1960, 26).

Moreover, urban residents were also dependent on periodic food supplies sent from rural areas, a phenomenon that has now been superseded by reliance on imports. By any standards the attractions of life in the more remote states now appear limited: "Old and young eke out a subsistence living and receive cash handouts from relatives working in Koror and overseas. . . . Today the villages are virtually bankrupt" (McGrath 1972, 134, 138). In a quarter of a century little has changed in much of the country: rural-urban contrasts remain striking and even within Babeldaob the economic and social viability of some states is extremely limited. This will soon change, however, with the construction of the Babeldaob perimeter road and new capital in Melekeok. The problems for the states most affected (Airai, Ngchesar, and Melekeok) will shortly revolve around how to manage the new pace of development and the influx of those from outside.

The little information available on migration in Palau since the 1980s suggests that similar patterns have continued from earlier years. From 1980 to 1986 the national population grew but outer islands continued to lose people. Other than Babeldaob, not a single island experienced a population increase. The population of Tobi atoll halved and the total for Kayangel fell by a quarter, while the larger islands of Angaur and Peleliu registered smaller declines. The population profiles of all the southwest islands suggests they are no longer viable; even the largest, Tobi, has a population of just 31. These declines were counterbalanced by the growth of urban Koror from 7,585 to 9,442 during the same period, but much of that growth was a function of immigration. However, the most substantial phase of rural-urban migration in Palau has long since ended. By the mid-1990s it was apparent, at least on Babeldaob, that a new phase of stability had begun, in which the island's population "has changed since the 1970s, from one reflecting a high rate of emigration to a younger population, Palauans in their twenties or thirties who work for the state government, teach, work in fisheries co-operatives, or simply live there in anticipation of the developments that will

## THE CONTEXT OF URBANIZATION

come when Compact funds facilitate a road or local development" (Smith 1996, 18).

This transition reflects a process that has gone on in the other former TTPI states: the post-Compact rise in public sector employment and growing population stability following a phase of exceptionally rapid migration. However, the case of Chuuk suggests that this may be only a temporary phenomenon; as Compact funds decline employment opportunities decrease, and with continuing high population growth rates a new phase of international migration begins. This too may eventually follow in Palau.

Migration within Palau has been extensive and has continued for most of the postwar era, resulting in high rural dependency rates. Present population stability in most states must be regarded not so much as a sign that migration has halted but as the outcome of a long-term population decline in outlying areas so great that there are few potential migrants remaining there. Conditions for public service employees located in Koror are so much better than for their rural counterparts dependent on semisubsistence agriculture that the pressures on the young to move are almost irresistible. The substantial Palauan communities in Guam, Hawai'i, and the US mainland provide further testimony to the wider opportunities overseas.

### International Migration

Future emigration . . . far from being seen as a menace that threatens to deplete the islands' human resources, is counted upon as an essential element in the Micronesian states.

Hezel and Levin 1990, 42

Data on international migration into and out of Micronesia are even poorer than those for population change as a whole. As the figures for population growth suggest (table 1), it is primarily Palau that is characterized by substantial emigration, though a similar outward movement is now growing quickly in the Federated States of Micronesia. In the Marshall Islands emigration has been

limited, in marked contrast to neighboring Kiribati, where labor migration has been in existence for more than a century but permanent emigration is rare.

Until the signing of the Compacts of Free Association gave Micronesians unrestricted access to the United States, most migration in the Trust Territory of the Pacific Islands was confined within particular countries (other than movement from Palau to Guam and beyond to Hawai'i and the US mainland). The compacts of free association provided that citizens "may enter into, lawfully engage in occupations and establish residence as a non-immigrant in the United States and its territories and possessions" (quoted in Connell 1991a). This soon encouraged movement by some with skills who could not find government employment at home and by students seeking permanent residence in the United States, and rapid migration by the Chuukese in particular to Guam and Saipan. A more comprehensive pattern of international movement has since accelerated and spread in the 1990s. The second FSM national development plan estimates there were about 5,000 FSM citizens in Guam alone at the beginning of the decade (FSMOPS 1992), and the number is increasing. Most migrants are young men, and few have sufficient technical skills or language ability for employment at anything above entry-level jobs.

The significance of the rapid increase in emigration to Guam and Saipan should not be underestimated. It is the most obvious response by many Micronesians to the decline in Compact funding and the lack of wage employment, and it is most intense in Chuuk where rural life is less satisfying. The lure of well-paid employment and the promise of material goods is directing Palau and the Federated States of Micronesia in the same direction as other small Pacific nations like the Cook Islands, which has a similar sort of relationship with New Zealand, and from which more than half the population have emigrated. The situation may be influenced by policy changes in Guam and the Northern Marianas where considerable influx from the Philippines and other parts of Asia accounts for high population growth rates. In the Northern Marianas foreign workers cannot become residents (much less citizens), making it possible to regulate migration in response to the demands of the labor market. Because Guam is subject to US migration laws, it is easier for foreign workers to remain, and migrants from the

## THE CONTEXT OF URBANIZATION

freely associated states of Palau, Federated States of Micronesia, and Marshall Islands are in the privileged position of being able to find work and benefit from education, health care, and housing. Perceptions that this has started to get out of hand have led the US government to send both Guam and the Northern Marianas extra funds to cope with the "migrant burden."

The situation is quite different in Kiribati where intense population pressure on scarce land resources and the presence of very low cash incomes at home have long contributed to labor migration. This movement, especially to the phosphate-rich island of Nauru, has resulted in a substantial flow of cash remittances that have been crucial to both national and household development. Kiribati has no colonial ties in the region, resulting in very little permanent migration overseas, though a few I-Kiribati now live in Fiji, Australia, the Marshall Islands, and elsewhere. Future opportunities for migration are very small compared with elsewhere in Micronesia.

### **Employment and International Migration**

If migration is curtailed for any reason in intended destinations, whether for labor migrants or permanent movers, the effects on the Micronesian countries will be substantial because the transnational network of kin has begun to spread its human resources widely (Marcus 1981). National income may decline as remittances tail off, pressure on rural resources will increase, and would-be migrants will experience considerable frustration. The underlying causes of such curtailment, such as recessions, would further stimulate return migration, causing even more difficulties for the small island economies of Micronesia. But, despite these risks, the culture of migration has become so established in Micronesia that it is now considered normal, expected, and anticipated. Until the late 1980s emigration from the Compact states was balanced numerically by the immigration of skilled foreign workers from Asia (particularly from the Philippines) and the United States. A 1980 UN mission drew attention to the lack of doctors, managers, accountants, and maintenance workers in fields such as construction and engineering. This situation is compounded by high absentee rates and the popu-



larity of jobs in the government rather than in the main industries of agriculture and fisheries.

*Federated States of Micronesia*

Like the other former TTPI states, but to a lesser extent than the Marshall Islands and Palau, the Federated States of Micronesia was characterized by migration from overseas in the 1960s and 1970s. Much of this was to take up opportunities for skilled employment in areas like construction and government service and was mainly from the United States and the Philippines (Connell 1983a, 48–53).

Numbers stabilized in the 1980s but never significantly declined, so that in 1994 there were over 3,200 foreign-born in the country (some 3 percent of the national population); two-thirds of these were from Asia, mainly the Philippines, and most lived in Pohnpei. In 1985 few FSM citizens had migrated beyond the national boundaries other than to obtain tertiary education and then return. By 1989 the situation had changed dramatically with increasing numbers relocating from the Federated States of Micronesia to other parts of Micronesia and the United States following the ratification of the Compact of Free Association (Hezel and McGrath 1989; Hezel and Levin 1990). Migration was in response to an economic boom in the Marianas, and circulation and return movements were relatively easy. Over time interest grew in obtaining access to education in Guam and to US welfare benefits.

Almost 5,000 citizens were living in Guam at the end of 1992, and 2,260 in Saipan in 1993. By 1994, the total in the two locations had increased to 8,750, of whom 5,900 were from Chuuk and 1,800 from Pohnpei. Within a very short period some 10 percent of the population of Chuuk, some of whom were originally from the outer islands, were in the Marianas (Marshall 1996). By contrast, the Yapese population of Guam showed virtually no growth in the same period. A considerable proportion of FSM citizens in the Marianas were men (with a ratio of about 116 males to 100 females) giving the potential for increased female migration and stabilization. The economic boom that began in Guam in the 1980s has ended and future movements will be smaller. Remittances were small to start with, but by 1994 some 15 percent of all FSM households

## THE CONTEXT OF URBANIZATION

were receiving them, and three-quarters of the total was flowing into Chuuk (Rubinstein 1993; Hezel and Levin 1996).

There has also been migration from the Federated States of Micronesia to the United States but to a much more limited extent than to the Marianas. In 1980 such migrants numbered 1,400 and almost half were from Chuuk. Since then the flow has increased; the 1994 census suggests that about 1,800 FSM residents were living in the United States though this figure is likely to be an underestimate. Interestingly, the distribution by state was the converse of that for the Marianas, with 41 percent of all Yapese emigrants being in the United States compared with only 23 percent of Chuukese emigrants. Overall, these data suggest that about 15,000 FSM citizens were overseas in 1994 (FSMOPS 1996, 55). This is a very high number after so short a period of emigration. One decade has seen a massive movement of people out of the Federated States of Micronesia, particularly from Chuuk, and the process is becoming increasingly similar to that in other parts of the Pacific: a steady outflow, growth of permanent communities overseas, and the compensatory flow of remittances. The flows may increase significantly in future, reducing some of the pressure on a weak economy.

### *Kiribati*

Some 3,000 I-Kiribati were overseas in the mid-1990s. There have been three principal sectors of international migration: movement for further education or training, labor migration to Nauru, and finding work as seamen on foreign ships. Kiribati is one of the very few countries in the world (along with neighboring Tuvalu) where the local population is trained for work overseas, in this case at the Marine Training School in Tarawa. By 1996 there were about 1,500 I-Kiribati working as seamen (mainly on German ships), while the number of those in Nauru was about 1,000. In Nauru the phosphate mine is reaching the end of its life, ultimately necessitating the return of migrant workers to their home country by the end of the century. The future of others working as seamen or engaged as students and contract workers in New Zealand is hardly more secure. The country thus faces the inevitable return of a significant proportion of its

## POPULATION, MIGRATION, AND URBANIZATION

workforce under circumstances in which there is very limited local capacity to generate alternative employment for people with raised expectations. In contrast to other parts of Micronesia there has been little immigration into Kiribati; the 1990 census recorded scarcely 1 percent of the population as foreign-born, including 155 Europeans (the lowest count this century), no Chinese (there had been several hundred between the wars), and 261 others (mainly skilled workers from Asia). There were also several hundred Polynesians whose numbers were falling and who came mainly from Tuvalu. Most immigrants, of course, lived in South Tarawa.

### *Republic of the Marshall Islands*

The number of Marshallese residing overseas has been put at between 1,000 and 4,000, with the largest communities in Honolulu, Guam, Saipan, and the West Coast of the United States. In California these communities are large enough to have constructed churches and established clubs of various kinds. Much of the movement appears relatively permanent (Ogden 1994, 256–260) and seems likely to increase, although it has not as yet led to significant flows of remittances. There has been considerable labor migration of Americans and Filipinos to the Marshall Islands (not counting the American base on Kwajalein, which is excluded from the national census), to the extent that there has been concern over the substantial numbers (Connell 1983c, 28–30). However, numbers increased in the 1980s with growing Asian business involvement, and in 1988 there were 805 overseas-born in the country (less than 2 percent of the population); half of these were American and a quarter Filipino. Barely 10 percent of immigrants lived outside the two urban centers.

### *Palau*

Within the Trust Territory of the Pacific Islands, Palau was long characterized by considerable international out-migration. Otherwise largely absent from the region, this outflow has been in existence since the Second World War, resulting in the establishment of a number of overseas Palauan communities. In 1970 over 2,500 Palauans were estimated to be in this situation. An informal census in 1980

## THE CONTEXT OF URBANIZATION

recorded some 1,800 Palauans living abroad, mainly in Guam, Hawai'i, and the US mainland. The number was probably an underestimate; the real total may be closer to 3,000, or about 20 percent of all Palauans. This followed the "grand exodus" in the 1970s when the increase in US funding gave greater access to American colleges, and Micronesians took up numerous TTPI government posts. In the 1990s about a fifth of all Palauans were still estimated to reside outside the country (Smith 1996), but again this may be an underestimate as there were at least 2,500 living in Guam and a further 1,600 in Saipan. Since the 1960s the Palauan community on Guam has become well established with its own clubs and networks, but its members are employed in the lower ranks of the workforce and not much is sent back to Palau in the way of remittances. Some idea of the significance of this community to Palau can be gauged by the large number of advertisements placed in the Guam newspapers by Palauan politicians during the 1996 political campaign. However, Palauans on Guam are becoming outnumbered today by the rapidly growing Chuukese population there. Some evidence suggests that migration out of Palau was slowing in the 1990s as the country moved closer to signing its Compact with the United States and an improved financial status.

Foreigners in Palau have increased from some 11 percent in the mid-1980s to more than 20 percent in the 1990s; in 1993, 74 percent of foreigners were from the Philippines and 10 percent from Taiwan and China (SAGRIC International 1996). This explosive growth of a predominantly male foreign workforce is largely responsible for an imbalance in the sex ratios at the time of the 1990 census, when there were 8,139 males compared to 6,983 females. The numbers of resident foreign workers fluctuates (table 6) according to economic conditions but is now thought to total well over 4,000. Labor costs are low in Palau relative to Guam and Saipan but wages are much higher for Palauans than for the guest workers. The average hourly wage paid to Palauans in Palau in 1990 was \$3.35 whereas the average for Philippine workers was only \$1.56. Government wages at \$4.62 were nearly twice that of the private sector at \$2.59, indicating the difficulties faced by private entrepreneurs trying to attract local labor (SAGRIC

POPULATION, MIGRATION, AND URBANIZATION

Table 6. Local and Foreign Populations in Palau for Selected Years

	Foreign		Local		Total	
	Number	Percent change per year	Number	Percent change per year	Number	Percent change per year
1986	1,528		12,244		13,772	2.2
1990	2,377	11.0	12,745	1.0	15,122	2.3
1991	3,142	32.2	12,862	1.0	16,004	5.9
1992	4,480	42.6	12,991	1.0	17,471	9.2
1993	4,006	-10.6	13,121	1.0	17,127	-2.0

*Source:* After SAGRIC International 1996, table 14.1.

*Notes:* Growth of local population for 1990–1993 assumed to be the same as for 1986–1990. Percent change for 1990 averaged over four-year period.

International 1996, 14.5–14.6). This is not a new phenomenon and its effects were realized more than two decades ago: “The loss of skilled technicians and professionally trained Palauans is a major development constraint in Palau at present. As increased United States federal grants are made available for capital improvement projects to improve the District’s[state’s] infrastructure, building contractors (both Palauan and American) are obliged to rely on costly imported skilled and unskilled construction workers from the Philippines, Okinawa, Japan, Korea, Hong Kong and New Zealand” (McGrath 1972, 134). Although the foreign workers are now mainly from Taiwan and the Philippines, the basic situation has not changed much a quarter of a century later.

### Decentralization and Resettlement

The outcome of natural increase in population and migration is the urbanization that has become visibly apparent in Micronesia. There are many reasons for growing urban concentrations: a centralized administration, the location of wage employment, and the presence of urban “bias.” In Palau, for example, financial and technical resources have been overwhelmingly concentrated in Koror. In the two atoll states of the Marshall Islands and Kiribati, long-standing concern over the extent of rural–urban migration has been heightened by land shortages in

## THE CONTEXT OF URBANIZATION

several atolls. Both countries have sought to develop policies to reduce the extent of urbanization, and since the 1930s there have been attempts in Kiribati to radically change the pattern of population distribution through decentralization. Few opportunities existed to do this in the Marshall Islands, while in the Federated States of Micronesia and Palau there was much greater scope for the absorption of migrants in the urban centers. Before considering urbanization in some detail, it is worth looking at the issue of decentralization in the atoll states because of its potential importance for national development and its recurring presence in political discourse.

Both the Marshall Islands and Kiribati have sought to develop policies to reduce the extent of urbanization. In Kiribati there have been attempts for more than sixty years to decentralize population from the Gilbert Islands group to the Phoenix Islands and Line Islands. Recognition of population pressure in Kiribati in the 1930s prompted the colonial administration to consider resettlement as a solution. The first attempt was the Phoenix Islands resettlement scheme of 1937, followed by the postwar inducement of Aranukan islanders to settle in Kiritimati. These were matched by several external schemes, initially to resettle Banabans to Fiji, and subsequently to send Phoenix Islanders and others to the Solomon Islands (another British colony). A site was chosen in Gizo, and the first settlers arrived in the late 1950s and the 1960s. Despite early problems (especially after independence in the Solomon Islands) almost all the new arrivals remained. No new migrations to external destinations of this kind have been allowed for more than 30 years because of controls introduced by the host governments. Finally, the Line Islands were identified as the most important internal destination for an overflowing population. The three islands of Tabuaeran, Teraina, and Kiritimati have nearly 60 percent of the nation's land resources. Only the Northern Line Islands offered realistic possibilities for settlement until Kiritimati was found to have substantial subterranean water reserves. After 1988 the government finally formulated plans for the resettlement of about 6,000 people, but by 1990, because of problems with transport and local infrastructure, only 1,180 had been moved at considerable cost. In the period 1985–1995 the Line Islands population doubled to almost 6,000, a very rapid change compared with that of the nation as

a whole. In 1996 the focus shifted again to the Phoenix Islands as it was realized that the capacity of the Line Islands to absorb more settlers was at an end. The Phoenix Islands possess considerable natural resources that have not been exploited much since World War II, but they lack basic infrastructure. To realize resettlement potential would involve great cost. Thus, despite a very deliberate attempt to achieve population balance through resettlement, it was found to be an expensive and inefficient solution to solving the population pressures elsewhere.

In colonial times population movements were controlled by legislation. In Kiribati early administrative regulations were designed to slow the rate of urban growth and to minimize the various problems associated with over-rapid urbanization. (Tarawa, for instance, had a higher incidence of tuberculosis and malnutrition than other parts of the country.) Regulations were still in place at the close of the 1960s. Entry to Betio was restricted in theory to those having a legitimate reason for going there, and magisterial permission was required to board a vessel en route to Betio. Although such administrative controls constituted the only direct attempt to manage the "disastrous shift of population" (Fox 1976, 57), some officials saw rural development as the only solution to urban problems. As early as 1969, Tony Hughes argued:

So-called remedies for urbanisation problems suffer from confusion about the nature of the problem. The result is that the symptoms are treated rather than the cause. Urbanisation is a problem only because people "urbanising" make impossible demands on their own human resources and on the physical resources of the town. The allocation of more . . . usually only makes things worse by accelerating the inflow of people to make use of them. Politically loaded choices are made in resource allocation to keep the urban voters quiet. . . . People leave social and physical resources in town. Realistically one cannot do *nothing* in town, which would be ideal, but too much is being done at the expense of the rural areas. . . . The approach recommended is to do the absolute minimum in town; invest in rural development by labour intensive technology, and manage agricultural change so as not to release large surpluses of labour to be sucked into town. (cited in Bailey 1984)

It was not sufficiently appreciated at the time, however, that success in rural development, improving education on the outer islands, and raising incomes

## THE CONTEXT OF URBANIZATION

would also fuel migration to town. The revolution of rising expectations was unstoppable. But the administration continued to centralize programs and institutions in South Tarawa and even subsidized urban amenities through much higher per capita expenditure in the town than elsewhere (Fox 1976, 57–8). Early attempts to define and devise a migration policy met with little success.

### **Urban Change in Kiribati**

By the 1960s the basic structure of urbanization in South Tarawa was firmly established with the completion of a causeway linking Bairiki to Bikenibeu and the provision of various new urban services. But a decade later this allocation of investment to urban resources was seen to be contributing to other difficulties linked to urbanization: "The policy maker is faced with the dilemma of using scarce aid funds either to provide an imported type of sanitary system for the congested urban minority, or to improve the adequate but primitive facility for the majority of rural dwellers" (Love 1982, 71). More generally Love observed an obvious circularity in the establishment of urban-based projects to solve the problems of urban unemployment: "Unless migration can be controlled the demands of the urban area are therefore likely to be more pressing than those of the rural areas which still contain the majority of the population, many of whom will continue to seek employment in the very projects which have been set up to solve the problems created by the urban migrants. In this respect a policy of satisfying basic needs in urban areas contributes to the process that gives rise to them in the first place, ensuring simultaneously that an ever-increasing proportion of aid and other expenditure will be taken up by urban problems" (Love 1982, 74).

As these problems became more apparent the need to discourage urban growth was increasingly recognized. It is one thing, of course, to come to such a realization but quite another to stem the tide of urban growth by creating alternatives. Simultaneous urban and rural improvement are now seen to be necessary and unavoidable.

Problems of urban life, while substantial, have not worsened seriously in the 1980s and 1990s, nor have they improved much despite the huge investment in water supplies and sanitation. These features and the new policy directions



adopted by the government to cope with oppressive living conditions in South Tarawa are examined in some detail in the second part of this paper.

### **Urban Growth in the Federated States of Micronesia**

Kolonia is a government town, with offices behind gas stations, above grocery stores and dress shops, along the main street, and down by the docks and in an old hospital across from the Spanish Wall. The place has a hasty, improvised appearance of a government in exile.

P F Kluge 1991, 68

Although the Federated States of Micronesia is the least urbanized of any of the Micronesian countries, by the 1970s more than a quarter of the national population lived in the urban areas, especially in Kolonia, the capital. But because there have always been difficulties in defining urban boundaries there may have been considerable understatement of the real urbanized population, especially in Pohnpei. After the decision to establish the national capital at nearby Palikir, the population of Kolonia grew steadily, faster than elsewhere in the Federated States. Kolonia in 1996 is less a government town than it used to be and it could grow much more quickly.

Kolonia grew steadily in the 1960s and by 1973 had a population of 4,620, some of whom were born outside the town. In the past this growth was partly a function of the resettlement of Mortlock Islanders (from Etal, Lukunor, and Satawan) on Sokehs Island, and migration from Kosrae. Most internal migration was from Kiti municipality, which was remote and possessed few amenities. Because of a pattern of circular migration, 40 percent of those born in Kolonia were no longer living there in 1973. By 1994 Kolonia had a population of 6,660. In Sokehs, just outside the urban border, a number of migrants from the outer islands of Pohnpei had settled and adopted many urban characteristics in terms of employment, income, and expenditure. Consequently, the real urban population of Pohnpei today is likely to be more than 10,000. The 1994 census indicates that 3,903 (59 percent) of Kolonia's formal urban population were born there, some 2,216 were from elsewhere in the Federated States (mainly Pohnpei state), and

## THE CONTEXT OF URBANIZATION

more than 400 were from overseas, giving the town a cosmopolitan character scarcely evident elsewhere.

In Chuuk, Weno (Moen) has also grown steadily despite emigration, but in the two smallest states of Yap and Kosrae urbanization is only in its infancy. Unlike the other district centers, Colonia has not become a significant urban place. Small though it is, Colonia in 1980 had a population of around 1,800, forming more than a quarter of the population of Yap State at that time. It was the only place where non-Yapese were resident, the largest group of whom were Palauans working for the government. Outer islanders also formed a significant social group, concentrated in Madrich. Few Yapese moved to live in town; Yapese government employees usually commute from villages like Gagil, retaining links with their still robust traditional social organization. In most cases FSM urban migrants have established well-defined communities based on their island of origin. Thus in Pohnpei the Porakiet community from Kapingamarangi is a prominent Polynesian group in Kolonia, whereas migrants from the other Polynesian atoll of Nukuoro are more dispersed within Kolonia (Lieber 1968). In Weno, the Pulap village of Iras is formed around migrants from that atoll (Flinn 1990). The social segregation that is most evident in the FSM towns is a significant factor to be considered in future urban management.

The urban community of Madrich was established in the 1950s on a tiny area of Catholic Mission land on the fringe of Colonia, and permanent buildings were constructed on the 0.7 acre site over the next two decades. In the mid-1970s there were about 180 outer islanders there—then about 6 percent of the total outer islander population—especially from Eauripik, the most densely populated of the outer islands. By the early 1990s reclamation had increased the size of the site to 1.1 acres, and the population had grown to about 270. A further 50 to 80 outer islanders lived elsewhere in Colonia, so about 10 percent of outer islanders lived on Yap at any one time. Many were visiting hospitals or relatives, or attending school, so there was considerable population circulation. However, more than half the Madrich residents were employed or were relatives of those with jobs (compared with just a third in 1976), making for an increasingly stable population. Madrich is one of the places most bereft of urban services and facilities in all

the Federated States of Micronesia: "Few people find Madrich an attractive place to live. It has been labeled a shantytown or a squatter settlement. Many of its structures are in disrepair and flimsily built. Little open space exists and sanitation is poor. The community has primarily depended on over-water privies and limited bathing facilities" (Alkire 1993, 52). It is located in an exposed spot, at risk from storms, and was partly destroyed in 1990 by Cyclone Percy. Outer islanders are socially subordinate to Yapese and have difficulty exercising any power and authority in Yap proper, do not live outside Madrich (other than in government housing and at Deboch), and effectively experience considerable discrimination (de Beauclair 1974). The Madrich community experiences some of the most difficult problems undergone by urban residents anywhere in Micronesia.

### Urban Change in the Marshall Islands

Majuro is a feast of ironies, a warren of houses and warehouses and shacks that feels like a slovenly picnic in mid-pacific, like Central Park after one of those Puerto Rican holidays, all trashed up and pissed on. There are nearly fifty thousand Marshallese now, about half of them under fifteen. The birth rate's close to 4 percent. And twenty thousand Marshallese are packed into Majuro. That's number one irony in paradise. The people who are born in a state of grace on outlying islands, rafts of palm and coral in a clear turquoise lagoon, can't wait to rush off to squalid, mean places. They come to Majuro to have babies at the hospital, to attend high school, to drive taxis, to watch videos and drink Budweiser and Mountain Dew, to work for the islands' employer of first and last resort, the government, or to live off relatives who do. They jump at the chance to escape from paradise, so now almost half the Marshalls' population is jammed into three municipalities, Darrit-Uliga-Dalap.

P F Kluge 1991, 44

The decade 1963–1973 witnessed the most dramatic change in the population distribution of the Marshall Islands, and one of the most extensive ever in the population geography of a nation. In that period the population of Majuro

## THE CONTEXT OF URBANIZATION

grew from 3,774 to 10,290 (with 8,003 of these in the Darrit-Uliga-Dalap area, and the remainder in Laura) while Ebeye grew from 2,388 to 5,469. Only two other atolls recorded any population growth in the same period. Thus the two urbanized atolls went from having 36 percent of the national population in 1963 to 63 percent only ten years later, a growth rate that posed enormous problems for urban management, and an economic, political, and social situation that the country is still to deal with effectively.

During the 1980s both Majuro and Ebeye continued to grow quickly, with the population of Kwajalein rising from 6,624 to 9,311 between 1980 and 1988, at which point it was considered "supersaturated" (UNCHS and UNDP 1994, 107). The population density on the atoll had reached 570 per square kilometer by 1988; but since most of it was on the island of Ebeye, just 0.2 square kilometers in area, the real density there was an extraordinary 46,000 per square kilometer and rising. In the same period the population of Majuro grew from 11,791 to 19,664, shared between the Darrit-Uliga-Dalap area and Laura. The latter island, linked by a 45-kilometer road to Majuro, had a population of 1,575. However, although part of Laura's growth was in response to urbanization in Majuro, growth was also becoming apparent in the two islands west of Darrit-Uliga-Dalap, Rairok (Long Island) and Ajeltake, with populations of 2,021 and 556 respectively. Overall, the population of Darrit-Uliga-Dalap and these overspill areas probably came close to 25,000 by the mid-1990s. Between them the two urban atolls now contained 67 percent of the national population, compared to 63 percent a quarter of a century earlier, suggesting that their dominance had not significantly increased as migration gave way to natural increase as the principal influence over urban growth. By the mid-1990s some 55 percent of the population of Majuro and 63 percent of that of Kwajalein were locally born, suggesting a growing permanency.

Ebeye's role as a "segregated labor reservoir" for the US military base on Kwajalein was the primary reason for its extraordinary growth and the persistence of severely overcrowded living conditions. As far back as the mid-1960s the urban character of Ebeye was the subject of negative reports: "The Ebeye community is similar to the shantytowns which have grown up around centers

of trade and/or employment elsewhere in the Pacific. Most dwelling houses are jerry-built affairs of corrugated iron roofing and scrap lumber. Sanitary facilities are minimal. . . . Social disorder is common. Arguments and fights, usually precipitated by heavy drinking, are frequent" (Kiste 1968, 154).

During the 1970s employment in both Kwajalein and Majuro became more exclusively Marshallese (at least compared to other parts of Micronesia) and circular migration became less apparent as urban job opportunities, especially in the government sector, stabilized or contracted. Social change on Ebeye has been dramatic with the former TTPI representative describing the 1970s as a "stunning social revolution. . . . It's astonishing how quickly the Marshallese have learned to want such 20th century appliances as electric refrigerators, automatic toasters and tape recorders. And they want them right now" (Trumbull 1977, 264). Various social pathologies due to overcrowded living conditions and family breakdown were compounded by serious health problems. In 1962 there was a serious polio epidemic, and it is not uncommon to have outbreaks of shigellosis. The Ebeye sewerage system never functioned properly because of defective construction work, and at the end of 1981 the drinking water was judged to be "100 percent contaminated" (*Marshall Islands Journal*, 27 Nov 1981) with the result that 500 children had gastroenteritis. The Marshall Islands president at the time described Ebeye as a "biological time bomb" (*Glimpses*, 23 (2, 1983): 5). Indeed, "even seasoned world travellers are shocked by Ebeye. . . . The shoreline on both sides of the island is covered with the detritus of a consumer society, the most noticeable items being the thousands of soiled plastic-lined disposable napkins and rusting beer cans. Flies and rats abound in the garbage thrown into the streets, which provide the only outdoor play areas for children" (Topping 1981, 14).

The situation was a remarkable indictment of three decades of trusteeship. By the end of the 1970s the extent of overcrowding on Ebeye was such that the average household size was thirteen (with some houses containing forty people!), and unemployment was estimated at 36 percent (TTPI 1981, 13). These problems necessitated drastic action. Along with attempts to enforce return migration, it was decided to encourage the settlement of Carlos,

## THE CONTEXT OF URBANIZATION

Carlson, and Ebadon islands, from which some would commute to work at the Kwajalein base. An airstrip was constructed on Ebadon but no real development occurred on an island that was 100 kilometers from Kwajalein. Plans were therefore switched to the development of Gugeegue, the island immediately to the north of Ebeye. The key element in producing change on Ebeye was the inauguration in 1983 of the atoll's first local government, which led to the establishment of the Kwajalein Atoll Development Authority to organize and supervise development initiatives. For the first time local leaders were involved in local development and there was local control over functions such as public works. The atoll development authority and the local government banned building without permits, and began to construct duplex apartments on both Ebeye and Gugeegue; proposals were also developed for a \$15 million causeway linking these two places (Johnson 1990). Alcoholism, drug abuse, and petrol sniffing nonetheless remained social problems in the still overcrowded community. As population grew on Ebeye urban management improved but not to an extent appreciable to many outside observers.

In the early 1990s travelers such as Julian Evans found Ebeye a town where the expenditure of many millions on sanitation services and other infrastructure had created a somewhat healthier slum:

Ten thousand Marshallese lived here on an islet of 40 hectares. The children were as thick as flies, the plywood barracks so close you had to sidle between them to get to the shore. . . . The density of garbage gave it the appearance of a clumsy land reclamation project. Everywhere there were oil drums, old trucks, earthmovers, the carcasses of cars, freight containers, transmissions, tyres, split bags of household waste, the children crawled and played, grinning, their faces streaked with rust. . . . The sewers no longer backed up into the one-room houses. They had desalination and power plants. The streets and sidewalks were paved. Hepatitis was no longer endemic. (Evans 1992, 262–263)

While Ebeye's urbanization problems were excessive, similar difficulties were also apparent in Majuro, both because of migration and because of rapid population growth in the country as a whole. Demands for services of all kinds had increased and social pathologies of the kind experienced in Ebeye

were in evidence, though in a reduced form. In spite of this the services available in the town were superior to what could be had elsewhere, creating the familiar circularity problem for the equitable distribution of resources. By the 1980s Majuro was experiencing serious problems of an intensity that made urbanization in the Marshall Islands the hardest to confront anywhere in the Pacific.

### **The Urban Experience in Palau**

The urbanization of Koror reflected its monopoly over formal sector functions in the country, which were more centralized in Palau than anywhere else in Micronesia. Its attractions were emphasized by the disproportionate share of revenue allocated there by the TTPI administration. The resulting massive urban bias saw considerable construction activity in the town from the 1970s and made it a target for potential migrants seeking good employment opportunities. Other than the Northern Marianas, no country in the island Pacific has a greater proportion of its population located in the principal town. The urban tradition established by the Japanese had resulted in a situation in which throughout the 1970s more than 60 percent of the population could be classified as urban. Travelers' descriptions of Koror have been as unkind as those of the other Micronesian capitals: "Koror itself is a painfully unattractive town, its cheap-American suburbs look relieved only by the occasional bunkerlike Japanese holdover. . . . More than half of Palau's population lives there, mostly in near-poverty. The few who live in comfort are usually connected to the government" (Malcomson 1990, 38).

There is little formal information on contemporary urbanization in Koror. Between 1980 and 1986 the rate of population growth increased and the total rose from 7,585 to 9,442, partly as a result of immigration to Palau. There were 1,299 who were non-Palauans; 74 percent of all residents in this category lived in Koror. As we have seen (table 6), the total of foreigners has increased greatly in recent years. A spillover of urban population into the adjoining state of Airai gathered pace in the 1980s, indicating the physical limitations to further growth in Koror itself. The soon-to-be-completed perim-

## THE CONTEXT OF URBANIZATION

eter road in Babeldaob plus the construction of the new capital in Melekeok State will make Airai more attractive for urban uses of various kinds.

Despite the significance of immigration for the growth of Koror, in 1986 some 45 percent of the urban population had always lived there, indicating the permanence of many of its residents. An obvious feature of urbanization in Koror is the concentration of skilled persons there. At the time of the 1986 census, there were 587 people in Palau who had completed college; 449 or 76 percent of these lived in Koror (and a further 44 in Airai). Examination of census records in the 1980s shows that Koror houses are relatively well supplied with services compared to other parts of the country and other Micronesian towns. Even in 1986, 597 houses (37 percent) had interior flush toilets compared with just 62 other homes in the rest of the country. Urban houses were much more likely to be permanent and to have piped water and electricity; for those living in Koror these services were universally available. Indeed, Koror is probably as well supplied with housing today as almost any town in the island Pacific.

### Conclusions

In the 1960s and 1970s an extraordinarily rapid period of rural-urban migration largely created the towns of Micronesia and reduced the viability of social and economic life in remote islands. Urban administrations, where they existed, were unable to cope with the volume and pace of the inflows. Where land resources were scarce in the atoll states of Kiribati and the Marshall Islands the effects of overcrowding soon appeared. But just as significant, if for different reasons, was the emergence of social problems at Madrich (Colonia) and Sokehs (Kolonias). Some were associated with unemployment, others with health problems, and some with the transformation from rural to urban lifestyles. The legacy of these problems has raised difficult issues for urban management in Micronesia because, although only in Majuro is urban growth still particularly rapid, nowhere have urban populations declined. However, it is encouraging that in South Tarawa more than two-thirds of urban residents would now discourage their kin from moving from other



## POPULATION, MIGRATION, AND URBANIZATION

islands to join them because of overcrowding and the high cost of living. In fact the majority would themselves move to another island if relocation were a viable option (Atoll Research Programme 1996, 10, 49). This may also be the case elsewhere. Even so, the proportions of national populations living in town are extremely high throughout the region. More generally, migration has given way to natural increase as the principal influence on urban growth, while urban populations have now stabilized, and children born in town lack rural affiliations and identities. In the Federated States of Micronesia emigration has become a safety-valve for population growth, as it has done for decades in Palau, but the transition has not yet occurred in the Marshall Islands. To a substantial extent the keys to urban growth are economic development and the role that urban management might play in the future.

## URBAN ECONOMY AND SOCIETY

Paradise ends where people begin.

Paul Kluge, *The Edge of Paradise: America in Micronesia*

THIS CHAPTER examines not only the urban economies of the Micronesian countries, but the diverse structure of regional economic development. Although there are few data that distinguish economic activity in the towns themselves, towns are the main focus of activity, and national economic development is crucial to the future of urban development. The principal development challenge facing all the island states of Micronesia is that of finding new sources of economic growth and productivity in the face of declining external financial support. For the three former TTPI countries, that decline is built into the Compact of Free Association arrangements as they presently stand. There are some possibilities for other direct sources of aid—with Japan and Australia already playing some part—but levels will not be commensurate with the fall in US support. Underlying the original basis of Compact funding was the notion that the new states would use Compact resources to achieve fiscal self-reliance, but this has not occurred. The situation is particularly grave in the Marshall Islands and the Federated States of Micronesia, whereas Palau has rather more time to reach a measure of financial independence and has more development options. Kiribati is much less dependent on overseas assistance and has gained from the success of the Revenue Equalisation Reserve Fund but also faces a general climate of “aid fatigue” and the prospect of diminished support in future. For the region as a whole the economic prospects do not look especially encouraging.

As in many other island economies in the Pacific, economic development in Micronesian countries is constrained by a range of factors related to size and geography: remoteness, isolation, and extreme fragmentation lead to high costs for transport to markets. Diseconomies of scale are associated with small

domestic markets; limited natural resources mean a narrow production base. Substantial trade deficits lead to dependence on trade with metropolitan states. The local workforce is largely unskilled. The islands themselves are vulnerable to external shocks and natural hazards such as cyclones. Finally, the island economies are characterized by disproportionately high expenditure on government, and dependence on external institutions like banks and overseas universities for some key services.

Political systems have sometimes been fragile, ecological structures are vulnerable, and economies lack diversity. Set against these problems the comparative advantages of being small and isolated are few, aside from an ability to retain a degree of cultural integrity. Indeed, cultural values influence most political and economic decisions throughout the region and are particularly significant for land matters. No group of countries in the world has been as dependent as those in Micronesia and for such a long time period. This long-established dependence includes financial, technical, and social features and will be very difficult to reduce. Each country needs to adopt diverse strategies to achieve economic growth and development. At the base of this are four major elements: a reduction in the role of the public sector; a reduction in government expenditure; the mobilization of domestic resources to encourage revenue and savings; and the establishment of policies to strengthen and expand the private sector to create more jobs and produce exports. Generally, government policies should aim to offer incentives in some areas through wage, trade, and tax policy, while reducing regulatory barriers to private sector development through improvements in investment regulation, land tenure, the legal system, and labor policies. The small economies are largely aid driven and heavily influenced by global fluctuations, trends in the Japanese and US economies, and the situation prevailing in the Asia Pacific Economic Cooperation group region.

A common feature is the prominence of the public sector. In the Federated States of Micronesia and the Marshall Islands, for example, government salaries and wages in 1993 accounted for 32 and 30 percent of the gross domestic product (GDP), respectively. More than half the workers in Palau, the Federated States, and the Marshall Islands are employed directly by the government (21

## THE CONTEXT OF URBANIZATION

percent in Kiribati) or in government-subsidized occupations like water and power utilities. Government employment is considered particularly desirable; as reported in 1977, "here government is not the employer of last resort, but of first resort. . . . working in business . . . is considered demeaning, while working for government is seen as prestigious. The salary scale reinforces this attitude. Government salaries are pegged at US levels" (Nevin 1977, 32). This situation has not changed much two decades later except that salaries are no longer similar to those in the United States. However, they are high by Pacific standards, and much higher than in the private sector, where development challenges remain considerable (Pollard 1994, 1995). In the Marshall Islands in 1996, for instance, the minimum wage in the private sector was \$2.00 per hour, compared with \$4.50 in the public sector. There are also a large number of "governments." Along with the largely locally born bureaucracy in Palau there are the national and sixteen state governments. Elected representatives and some traditional leaders are paid from the public purse, giving Palau one of the highest percentages of public sector employment in the world. Independence in October 1994 was marked by Palau's president giving all 1,500 government workers a 10 percent salary increase, a move that will be difficult to reverse in the future. The wide gulf between public and private sector wages has led directly to the need to import foreign labor to work in many occupations neglected by Palauans. In addition, as a Palauan senator recently observed, "government absenteeism is rampant and productivity low [while] young people aspire to work for the government. You do nothing for eight hours a day and still get paid" (*Pacific*, January 1995, 46). Thus the Micronesian countries experience the worst of all worlds—a private sector deprived of high quality workers and a public sector characterized by high costs and low productivity (Connell 1995). These characteristics are not true of Kiribati, however, where wages, imports, and consumption levels are much lower.

A major task in the three Compact states is to reduce the size of the bureaucracy and its disproportionately favorable wage structure at the same time as stimulating productivity. Again, the circumstances appear most extreme in Palau: "Unless Palau cuts government and opens up [to foreign investment], it will

become a foreign aid basket case. The economy will be run by an expanding network of foreign workers, already numbering 6,000 (mostly from the Philippines). The good and smart Palauans will leave for the United States. The bad ones will stay and perfect the arts of political corruption. And the independence windfall will slip through Palauan fingers like so many grains of sand" (*Pacific*, August 1995, 47).

To some extent this scenario has already taken place in the Marshall Islands and the Federated States of Micronesia, though by the mid-1990s those governments were introducing measures to reduce costs. In mid-1996 an FSM government restructuring committee sought to cut numbers of departments as well as workers; Yap State had made a 37 percent reduction in its public service; Chuuk State had cut working days from five to four per week resulting in a 20 percent cut in salaries for public servants and elected officials; Pohnpei had undertaken similar measures. At the same time public utilities were being commercialized, as in Pohnpei where twenty-four-hour water and power supplies had been achieved for the first time, and the government was reconsidering its exposure to agriculture and fisheries in which there had been significant losses (*Pacific Report*, 29 July 1996, 5). Similarly, government salaries in the Marshall Islands were reduced in 1996 (though not to levels comparable to ones in the private sector), and subsidies to public corporations were cut.

Micronesian governments have sought to stimulate and expand the private sector, though it remains undeveloped. FSM President Bailey Olter, for example, stated in 1993 that "the private sector is the engine for powering the nation to economic self-sufficiency" and, in the Marshall Islands, President Anata Kabua has said "the government is doing its utmost to support and encourage the private sector to expand to its full potential" (both quoted in Connell 1995). Indeed, the Marshall Islands has actively sought all kinds of private investment from almost any origin. The great majority of private sector investment throughout the Compact states in the past decade (as well as in Guam and the Northern Marianas) has been in areas allowing access to US markets, rather than in response to availability of labor, resources, or the local and regional markets. Though access to the United States is unlikely to be reduced, it may be regulated

## THE CONTEXT OF URBANIZATION

more firmly, lessening the competitiveness of Micronesian exports.

There was some employment growth in most of the region in the 1980s, but it centered on the expanding public sector, ranging from 3 percent per year in the early part of the decade in the Federated States of Micronesia and Palau, and 4 percent in Kiribati, to as high as 8 percent in the Marshall Islands. But unemployment, so far as it can be measured, was well over 10 percent in the Marshall Islands at the start of the 1990s and much higher in the two urban centers, where over 60 percent of the employed are in the 15–24 age group. Unemployment is even more difficult to assess in the Federated States of Micronesia, partly because of the continued viability of the subsistence sector; but both there and in Palau it is likely to have been of a similar order to that of the Marshall Islands. In Kiribati official unemployment is low, just over 2 percent, though there is much “underemployment,” especially in the outer islands. Currently, unemployment is worsening throughout the region, leading to some emigration (especially from the Federated States), but it has not been accompanied by a return to the agricultural and subsistence sectors. Many prefer to remain unemployed while continuing to seek wage employment rather than move to distant subsistence activities and thus reduce their availability for an eventual urban occupation of some kind.

Exports from the region are few and in the Federated States of Micronesia, for example, consist primarily of marine products, handicrafts, and cash crops. Fishing license fees are one of the limited sources of foreign exchange, but the indigenous industry remains undeveloped while national resources are being exploited by companies based mainly in Taiwan. In the Marshall Islands the main exports are fish and copra; fish exports increased in the 1990s after the reopening of a transshipment facility in Majuro. Copra exports declined in the 1980s but stabilized in the 1990s with a recovery in prices. Most importantly, substantial “services” income is derived from Kwajalein military base rents and special compensation payments by the US government, following earlier nuclear testing.

Palau is similarly dependent on copra and fish exports but has the added advantage of a fast-growing tourism industry that in 1993 yielded \$2 million in government income—about 10 percent of total domestic revenue. The 1992 national accounts reveal that hotels and restaurants contributed 9.7 percent of the

gross domestic product, or \$8.7 million (SAGRIC International 1996, 8-2). Kiribati exports copra and fish, both of which are vulnerable to price fluctuation and environmental shocks. In each of the countries imports are many times greater than exports, trade is highly unbalanced, and future prospects (apart from tourism in Palau) are poor (Connell 1995). Aid, channeled into public sector wages, helps to remedy the trade imbalance but also stimulates consumption and imports.

A further task of development is to translate whatever modest economic growth can be achieved into more broadly based development. Human resource development has been limited in the past. Education systems need improvement in both quality and quantity, especially in the Federated States of Micronesia and the Marshall Islands where there are high dropout rates, rudimentary vocational education, and minimal tertiary education. Health services are often inadequate, especially in remote areas, and there has been some deterioration in several key health service indicators accompanied by an epidemiological transition to non-communicable diseases, placing a heavy financial burden on curative services. In the first Compact countries, the Federated States of Micronesia and the Marshall Islands, education and health programs were the principle victims of a decline in Compact funding, and in both states there is growing evidence of malnutrition. Current development trends have also posed environmental management problems, most evident in the two atoll states.

Though increased self-reliance is the necessary rhetoric found in the introductions of development plans throughout the region, it has become little more than the attempt to establish a guaranteed income from any possible source: "Micronesia's meal ticket has become its rights, not its resources, and economic development has lately become a superfluity" (Hezel 1979, 7). A service economy fueled by government salaries cannot become a productive economy without very strong motivation. The establishment of "welfare colonialism" in the Compact states in the 1960s and 1970s set the stage for rural-urban migration, a decline in agriculture, the attempt to develop manufacturing and tourism, and the genesis of the wide range of problems now being addressed by Micronesian governments.

### **The Urban Economy**

It is important to repeat the fact that the national and urban economies are almost the same in much of Micronesia particularly in terms of employment, and especially in Palau and the Marshall Islands. In those countries agriculture has declined substantially and there is little market production of local goods. By contrast in both Kiribati and the Federated States of Micronesia the agricultural economy is much more viable, especially in the outer islands, where there is a considerable degree of self-reliance. It is necessary to examine some elements of national economic development to trace the relationship between this and the urban economies and examine the potential for sustainable development at a national level.

### **Agriculture**

Each of the island countries has a significant subsistence component in their national incomes. The remote areas and outer islands in particular rely on subsistence agriculture and fisheries, and the majority of the workforce in these locations is primarily involved in production. Partly because of transport constraints, not much of this output reaches the market, although in the urban centers of the Federated States of Micronesia and Kiribati local fish and other foodstuffs are regularly available in urban markets (Connell 1991b). But in Palau just 4 percent of the adult workforce is engaged in any form of agriculture, and a very similar situation exists in the Marshall Islands. Even in Kiribati the decline of subsistence production is marked and well documented (Fleming and Hardaker 1996, 89–123) though, on some islands such as Tamana, the subsistence economy has remained viable (Lawrence 1992). Decline is long established and young people have little memory of a time when self-reliance was the norm, trade took place largely within localized island clusters, and imported food was almost unknown. Today, as much as 90 percent of all food in the Marshall Islands and more than half in the other Compact states is imported. Besides the financial implications of this situation for national economies, it has also become costly in nutritional



terms in Chuuk and the Marshall Islands. As in so many other facets of life in the Compact countries, food dependency will become increasingly problematic as external funding winds down at the close of the twentieth century.

There is some urgency to transform the present situation but no certainty that this will occur. Numerous constraints have discouraged agricultural production and are likely to continue to do so: land shortages and land tenure issues, difficult topography (on the high islands), poor soils and inadequate rainfall (in parts of Kiribati and Marshall Islands), high labor costs, a preference for white-collar employment, consumer tastes oriented to imported food, and limited and costly marketing infrastructure. Demands for prestige associated with modernization, westernization, and urban-industrial development, and difficulties attached to establishing rural projects compound the difficult process of comprehensive policy formulation in small island democracies (Connell 1991a; 1995).

Despite numerous attempts to achieve social and economic development on outer islands through fisheries, agriculture, and technological innovation, there has been little effective and sustainable development. The friction of distance, high transport costs, uncertain and inadequate links, and scarce natural resources and skills have constrained the limited opportunities that do exist. A handful of schemes have succeeded (though not always for long), ecotourism is constantly touted as a viable economic activity without evidence, and some forms of fisheries development remain unrealized. Of the few realistic income-generating opportunities that exist on outer islands, even fewer would raise household incomes to a level comparable to those in the urban centers. Incomes have risen on Woleai (FSM) primarily as a result of growth in government employment, allowing widespread access to superior living standards through the "backdoor of bureaucracy" (Connell 1992), but a decline in Compact funding suggests that this fortuitous position is unlikely to continue. On most outer islands the traditional agricultural system has faded in the present century; on many atolls, such as Namu and Lae (Marshall Islands), pit taro cultivation is conspicuously absent. Despite subsidies for copra production as in the Marshall Islands, the outer islands are experiencing particularly difficult times: "The people of Majkin [Namu] face a bleak future. The Marshall Islands government wants to

## THE CONTEXT OF URBANIZATION

encourage people to stay on their home islands, and thus reduce the urban pressure. But the resources on an outer island such as Namu cannot support any further population increase. The limit has been reached between supply and demand for food. Urgent attention is needed by the central government to replace coconut trees, increase the number of breadfruit trees, and introduce an acceptable means of restricting population size. Otherwise outer island living will no longer be an idyllic option" (Pollock 1996, 10).

As expectations have increased, the focus of economic and social life has shifted from the rural peripheries to the urban centers. Nonetheless, at least in the case of Tamana in the southern Gilberts, the agricultural economy has grown rather than stagnated, since "people recognise that life in the urban centre has its detractions and that rural dwellers have somewhat more control over their lifestyle and living standards; they have the opportunity of being more self-reliant. . . . In the face of uncertainty and limited resources, this is the best hope for a sustainable future" (Lawrence 1992, 55). In Kiribati the future is less bleak than in the Marshall Islands, but there is little doubt that rural satisfaction will be more difficult to achieve elsewhere in Micronesia.

### **Fisheries**

A somewhat similar situation occurs in fisheries although, partly because of technological changes, the subsistence sector has not declined much in recent decades. Commercial fishing development by indigenous Micronesians has been very limited but has provided some employment in most urban centers. None of the states have realized the fisheries potential of their Exclusive Economic Zones: the Micronesian seas produce more fish than the Atlantic and Indian Oceans combined and there are more than 150 foreign purse seiners operating in the region, but few shore-based facilities exist and there is little contribution to local employment or the national economy. The reasons for this lack of local involvement in the industry are similar to those found in most of the island Pacific: poorly developed domestic industries, long distances to markets, high labor and transport costs, and considerable competition. These realities have prevented various value-added proposals like fish canneries from being built, although

projects have been investigated in all the countries. Canneries are not economically viable because of high labor costs, inadequate skills, lack of fresh water supplies, and high transport costs. Competition is likely to increase in the future because trading agreements such as the North American Free Trade Association, make development of local industries difficult. Micronesia as a whole could probably support a fish cannery—but only if agreed to by all the countries—a situation that is highly improbable.

In Palau, however, the fisheries industry, along with tourism, offers the greatest prospects for economic growth. Fisheries contributed more than a quarter of gross domestic product in 1991 and 1992, and production in 1992 was valued at over \$800,000. Considerable significance is also attached to fisheries in the Federated States of Micronesia where it was regarded as the most important economic activity in the second national development plan period (1992–1996). Tuna is the primary resource; some 150,000 tons, mainly skipjack, are caught annually at a market value of more than \$150 million. But foreign vessels do all the harvesting; the Federated States receives just 6 percent of catch value in lease payments. Beyond the standard constraints already listed, there is a lack of suitable management expertise, little research on regional fisheries prospects (especially regarding subsistence fishing), and a lack of coordination between federal and state governments. Some progress has been made in establishing shore-based infrastructure prior to offshore development in order to attract a range of foreign ships. But so far, aside from evidence of illegal fishing by some Asian nations, only vessels from the People's Republic of China and Taiwan are increasing their operations.

Commercial fisheries in the Marshall Islands have had experiences similar to those in the Federated States of Micronesia but have achieved more success with tuna exports. Numerous projects were established since the 1980s but few became operational, and joint ventures with private interests for purse seining have lost money. Some tuna transshipment from Majuro to Hawai'i and on to Tokyo has involved more than a dozen locally owned or operated vessels since 1990, but most tuna fishing is undertaken by Japan and the United States. Better ways of transporting fish to Hawai'i are required as are several other

## THE CONTEXT OF URBANIZATION

improvements such as relieving congestion at docks, encouraging local fishermen to share information on fish movements, and the introducing ways of conserving fish stocks. Kiribati has extensive fisheries resources; the industry has contributed around 10 percent of the gross domestic product over the past decade despite an erratic performance. Most commercial operations are carried out by the nationally owned Te Mautari Ltd. The majority of income, however, comes from various leasing arrangements of the Exclusive Economic Zone. Unlike most other parts of Micronesia, an efficient small-scale artisanal fishing industry in Kiribati involves some of the outer islands.

Urban and rural economies in Micronesia are not separate entities, and any judgments about sustainable development prospects depends on an appreciation of conditions throughout the economy. What happens in the rural sector is crucial to the future of Micronesia; where the rural economy has a degree of viability—most evident in Kiribati and the Federated States of Micronesia—pressures on the towns are likely to be less severe. Nevertheless, the prospects for sustainable development in agriculture and fisheries remain poor, and food imports continue to mount. All the evidence suggests that the urban areas will continue to be perceived as the keys to national economic growth in spite of their limited prospects. Tourism, and to a much lesser extent industrial development, offer some opportunities.

### **Tourism**

Tourism has been an urban phenomenon in Micronesia and with very few exceptions—in the FSM states of Kosrae and Yap and in Kiribati—there are no hotels outside the principal urban areas. Except for Palau, tourism is relatively unimportant. Despite several attempts, the Compact countries have been unable to effectively identify themselves as destinations capable of being packaged together with the successful destinations of Guam and the Northern Marianas. The isolation of Kiribati in particular has disadvantaged tourism development by making this island destination more expensive to reach than other places in the Pacific with comparable attractions. The position of tourism development is an ambiguous one, sitting somewhat uncomfortably between extremes: as a

relatively fast-growing lead sector in Palau with considerable pressures from international investment, and as a small, low-profile, and largely domestic industry elsewhere in the region. The contrast between the industry's status and prospects in Palau and nearby Yap State, located only one hour's flying time away, is dramatic. Success in the competition for tourist numbers and tourism dollars in Pacific Island states rests on an advantageous combination of access, attraction, and price factors not uniformly present across the independent countries in the Micronesian region. Modern growth of tourism in the central Pacific suggests that all of these attributes can be altered by the industry to enhance the prospects of some destinations over others but that some island communities are less willing than others to allow such changes to happen.

Tourism is seen officially in Palau as the key source of export income to replace diminishing Compact funds and as the only major generator of considerable employment. It has been more successful there than anywhere else in the region. In the words of the national master development plan:

The aim of Government policy is to promote and encourage the development of a visitor industry in Palau and to make it a responsibility of all visitor-oriented government and quasi-government agencies to assist and participate in the achievement of this policy. Tourism is regarded as the lead sector to support economic growth. However, there is much uncertainty about the desired growth of tourism and its style. The "Saipan" model is regarded by many Palauans as overwhelming. The low-in-number high quality-high cost establishments, in many ways, seem more suited to the ecosystem, but serving that market will require a much higher participation rate by Palauans and may not, because of imports and the need for foreign skills, create the flow-on effects expected. (SAGRIC International 1996, 8-1)

Most of the current dilemma about how to cope with tourism in Palau is summarized in one difficult question: how to efficiently service and extract full value from a capital-intensive industry without unduly compromising the natural environment and suffering diminishing local returns from the increasing use of foreign labor. Most of the answers are reflected in the overall challenges confronting sustainable development in Palau—the need for good government and administration, and for management of change at a pace that can be accom-

## THE CONTEXT OF URBANIZATION

modated by the community. As far as tourism is concerned, a variety of planned and unplanned obstacles to unfettered foreign investment have acted to keep some control over explosive growth in visitor numbers in recent years. Nevertheless, tourist numbers grew at around 10 percent per year during the 1980s. Arrivals have increased from 32,700 in 1991 to 53,229 in 1995. Approximately half of all tourists were from Japan but the specific attractions of scuba diving and snorkeling around the Rock Islands have enabled Palau to achieve a greater diversity of visitor sources than Guam or Saipan. The obstacles to more rapid growth include difficulties in securing land titles and foreign investment approval as well as protectionist legislation that restricts foreign ownership in many tourism-related activities such as retailing, land transportation, tour agencies, diving operations and guides, and commercial fishing.

Although there appears to be community agreement that some controls over tourism development are necessary, the means of achieving a quality tourism industry in Palau are not clear cut: "After numerous conferences, symposiums, workshops on the subject of tourism as the industry for Palau, the conclusions have been practically predictable. At the end, the people are overwhelmed at the projected problems, seemingly insurmountable, and frustrated over lack of achievable solutions, hence dramatic and sweeping recommendations that at closer look may not benefit Palau as intended" (*Tia Belau News*, 18 May 1996).

A Palau Chamber of Commerce meeting held in Koror in May 1996 came up with several policy recommendations designed to improve national management of the tourist industry. Rather than placing a cap on overall tourist arrivals, the government should consider four indirect measures that would achieve the same result: (a) restrict foreign hotels to the internationally known chains as a means of raising the quality of accommodation; (b) restrict hotel size to three hundred rooms maximum (a figure considerably larger than any existing or planned establishments); (c) prevent inclusion of residential accommodation for employees on hotel sites, forcing any foreign or other labor to lease on the local market; and (d) introduce controls over visitor density that are based on population or land size, that is, relate the number of hotel rooms permitted in any location to a percentage of the size of the local population in that state (*Tia Belau*

*News*, 18 May 1996). It is difficult to avoid the conclusion, however, that controls of this kind would be hard to administer adequately because sanctions for noncompliance in any field of development are difficult to impose in Palau, and could be avoided altogether by the use of "fronts" and other well-known devices.

The Chamber of Commerce was critical of the lack of action in expanding basic infrastructure and considered that problems in providing infrastructure and sanitary services to new hotels could be solved by requiring the inclusion of separate power generation, water supply, and sewage treatment. However, they were aware that this had been tried in Saipan and Tinian, only to see the government subsequently require connections to mains power supplies, leaving hoteliers with expensive and unused plant and equipment (*Tia Belau News*, 18 May 1996). Currently there are only 709 hotel rooms in Palau, with the great majority of them located in and around Koror, but plans are in hand for more than 1,000 additional rooms to be constructed by 1999. Two large new urban hotels, the Outrigger Koror Hotel and the Palau Hilton Resort, due for completion by mid-1997, will add more than 300 rooms, plus condominiums. The focus of activity is likely to shift soon from Koror to Babeldaob island to take advantage of new access via the perimeter island road and construction of the national capital at Melekeok. A proposal in Aimeliik, for example, includes a 250-room hotel, 100 villas, an 18-hole golf course, and a stadium to hold 18,000 people, in a scheme to be built on public land held in continued ownership by the state (*Tourism News, Newsletter of the Palau Visitors Authority* 14, 1996). Such proposals mark a new stage in the development of the tourist industry, echoing a pattern already evident in the Northern Marianas; greatly increased tourism demands will be placed on other elements of national infrastructure, such as the airport and hospitals, that have hitherto largely escaped such pressures.

In the Federated States of Micronesia tourism has not developed to an appreciable extent. The second national development plan regards it as an "infant industry [in which] accommodations and attractions are still being developed" (FSMOPS 1992, 189) and for which government assistance is required to stimulate its growth. Nevertheless visitor numbers have increased slowly from

## THE CONTEXT OF URBANIZATION

5,774 in 1980 to 9,463 in 1984 and 23,171 in 1992. Tourism is concentrated on the high islands: Pohnpei, with the historic ruins of Nan Madol, attracts around 40 percent of the total; and Chuuk, with good diving opportunities, accounts for another third of tourist numbers. The continued growth of the industry depends on cost and accessibility including the development of attractions, improved hotels and tour services, and better infrastructure. Many hotels in the Federated States are locally owned because of a preference for local investment in tourism over externally based package tours, but recently there has been growing Japanese involvement in resort and golf course construction. In 1992 more than six hundred people were employed in the FSM tourist industry together with a range of other jobs created in the service sector. Few figures describing the economics of the industry in Micronesia are available, but a recent study in Palau calculates the tourism income multiplier at 0.51; the government revenue multiplier at 0.36; and the net retention of cash resulting from every \$1,000 spent by tourists at \$173 (SAGRIC International 1996, 8-2).

In isolated Kosrae and in Yap tourism is scarcely established, though recent developments in the latter state exemplify the possibility of creating forms of tourism as alternatives to the capital-intensive types that have occurred in Palau and the Marianas. The industry in Yap has a part to play in achieving two of the state's priorities: reducing reliance on foreign aid and increasing the size and competitiveness of the private sector. Yap is not under pressure from tourism developers at present, nor does it offer an accessible array of marine and other scenic attractions. It is the most traditional of destinations in Micronesia and the state government is at pains to keep it that way as long as possible. Some local Yapese entrepreneurs have responded to demands of visitors seeking a cultural tourism experience by starting a village tourism industry on a small scale. Two developments in particular have now been constructed in Yap proper and provide a good illustration of indigenous tourism development that fits in well with community aspirations. Neither example is a strictly "urban" development but both offer some evidence of the kind of entrepreneurial activity that will be necessary in town locations to maximize indigenous involvement in the tourist industry.



*Building the Village View Hotel, Wacholab*

This small hotel, consisting of ten large, self-contained beachside units, is located on the north coast of Yap proper in the village of Wacholab, Maap Municipality. The idea for a hotel came about through the partnership of two brothers who live in the village, which has a population of about thirty. One of them had spent time in the United States, as many Yapese do, and was educated there at a midwestern university where he learned drafting and design. On his return to Yap he persuaded his brother to be his partner in the venture and they sought finance for the project from the bank. The loan took four years to arrange and was secured with village land as collateral. The whole project was a new departure for the village and the two partners, whose only relevant qualifications were the skills needed to construct the modern units to a high standard from largely imported materials, were learning as they went along (Alphonso Ganang, personal communication, 1996).

The residential units are each serviced by a septic tank and water is drawn from a local spring without treatment. Garbage is disposed of in the brothers' village "hole" but they encountered problems at an early stage with disposal of nonbiodegradable waste such as cans and bottles. Work will be available for at least three villagers as business picks up and guests can visit the famous Bechyal Cultural Village, only a half-hour walk along the beach at low tide. Customers are attracted in a very basic way: one of the brothers drives to the airport in his van to meet the occasional aircraft and holds up a sign. Indeed, the only formal advertising has been the placing of a photograph in a business newsletter in Hawai'i. This project is an example of the possibilities that may exist for somewhat informal tourism development in Yap, where individual land title is not present but the number of visitors is not likely to be great.

*The Destiny Resort, Gilman*

The other indigenous village tourism project in Yap proper, located at the southern end of the main island in the village of Gilman, represents a venture created in a rather different way. There the village entrepreneur sought a partner

## THE CONTEXT OF URBANIZATION

offshore through tourism industry brokers in the United States and in Australia before successfully finding a partner in Honolulu. The two large cabins of traditional style that form the first stage of the resort were prefabricated in Indonesia and assembled locally in 1992. They are situated in the village close to a beach and each can accommodate four people (James Limar, personal communication, 1996). This project demonstrates an alternative means of attracting small-scale venture capital and developing high standard accommodation under circumstances in which relevant construction skills may not be readily available. Generally, despite numerous similar attempts (for example in North Tarawa, Kiribati), such alternative tourism projects are absent in Micronesia since the number of casual visitors is particularly small (largely deterred by high transport costs and intervening opportunities). Most tourist development is concentrated in the largest urban centers.

Tourism is not significant either in numbers or in contribution to the national economy in the Marshall Islands, though it has been emphasized as an important area in the second five-year development plan (MIOPS 1991). There are fewer than 5,000 tourists per year and most pass only briefly through Majuro, which has few attractions. Further development of the industry is constrained because the Marshall Islands are so isolated, travel costs high, hotel rooms few, and facilities on outer islands absent. Without the development of package tours focusing on diving, ecotourism, or perhaps World War II sites, the industry is unlikely to grow further.

Tourism is least important in Kiribati despite the possible attractions of war relics and the promotion of game fishing in outer island locations such as Kiritimati; isolation, poor airline connections, high fares, limited facilities, and an absence of marketing have prevented the growth of the industry. The annual number of visitors averaged around 2,500 in the 1980s and reached a peak of 3,435 in 1993 (only the second time it has passed 3,000). Most are business visitors; fewer than one fourth are tourists. Tourist expenditure has only averaged about \$1 million in most years, resulting in limited economic impact (Milne 1991). Of the official tourists, about three-quarters visit Kiritimati and the rest

visit Tarawa and the only other island with facilities, Abemama. Future growth prospects are very limited.

### **Manufacturing Industry**

Constraints to the establishment of manufacturing industry in the central Pacific are considerable and include many of the negative characteristics that discourage most forms of modern sector development: difficulties with land tenure, few appropriate skills, poor infrastructure, limited domestic resources, a lack of credit, and a regulatory environment that discourages private investment. In Kiribati, the Marshall Islands, and Palau, there is no manufacturing beyond some minor food processing and coconut oil and soap production. The Marshall Islands has contemplated establishing a brewery in Majuro and a garment factory similar to one operating with Chinese assistance in Yap. The factory will be constructed in Laura and is expected to employ 120 people, 80 percent of whom will be Chinese and the rest Marshallese. In the Federated States of Micronesia manufacturing was similarly low-key and exports were minimal until the establishment in 1988 of the foreign-owned King Tex garment factory in Yap. This factory imports raw materials and exports the manufactured clothing to the United States, taking advantage of a duty-free status. It formerly employed three hundred foreign Sri Lankan women but the workforce is now Chinese. In Kiribati manufacturing employs some six hundred people, accounts for about 2 percent of the gross domestic product, and mainly involves boat building and handicraft production. Experience of manufacturing in the region to date suggests that without unusual developments of the kind described for Yap, the prospects for expansion of the sector are slight.

### **Employment and Urban Society**

In each of the countries almost all formal sector employment is concentrated in the urban areas and most of that employment is in the public sector. By contrast the majority of the economically active population, at least in Kiribati and the Federated States of Micronesia, are involved in the agriculture and fisheries sector. There are therefore very significant differences in the rural-urban structure

## THE CONTEXT OF URBANIZATION

of employment, but limited information on this distinction is available. Other than informal marketing activities there is very little informal sector economic activity in the urban areas. In Kiribati, unlike the other countries, a small "flea market" has begun to operate in the center of Tarawa, principally trading in second-hand clothes brought in from overseas, in a manner similar to that found in Nuku'alofa, Tonga (Connell and Lea 1995, 50), but on a much smaller scale. Despite the significance of employment in the urban areas, there are virtually no data on the importance of the urban economies and their relationship to national and regional development. Nor is much information available on the sectoral distribution of urban unemployment or, more significantly, on the contribution of the urban economy to national development. Similarly information is scarce on the extent of urban (or national ) poverty, though there are indications that nutritional and health status is worse in most urban areas, especially in the Marshall Islands.

### **The Federated States of Micronesia**

At the time of the 1994 census some 44.0 percent of the national population were in the workforce, with the number of unemployed recorded at 4,216—an unemployment rate of 16.0 percent. Chuuk recorded the highest state unemployment at 20.0 percent, and throughout the Federated States most of the unemployed were listed as being in the outer islands. Yap state had the lowest rate of all. Kolonia itself, the only FSM town that can be separately distinguished, had an unemployment rate of 13.8 percent, which is below the national average. Most of the unemployed were in the 15–30 age group.

Because of its significant outer island population, Yap had the highest proportion (19 percent) working full time in subsistence activities, whereas Kosrae had only 2 percent in this category. In Kolonia (Pohnpei) some 47 people (just over 1 percent of the workforce) were similarly engaged; three times as many were occupied in market-oriented agriculture and fisheries. Employment was dominated by those in educational and public administrative occupations, which together absorbed 43 percent of the employed workforce. Between 1980 and 1994 the number in public administration had increased from 1,844 to 4,699, a rise of some 155 percent: a remarkable indication of the continued growth in

## URBAN ECONOMY AND SOCIETY

government employment. In Kolonia, public administration employed 533 people, or some 26 percent of the workforce; education and health services absorbed another 15 percent. Kolonia was clearly a government town, despite 56 percent of its workforce being classified in the private sector. For the Federated States of Micronesia as a whole some 51 percent were employed in the private sector, though that proportion was as low as 43 percent in Chuuk. Since Pohnpei has the highest proportion of privately employed (59 percent) it is thus quite likely that Weno (Chuuk) and Colonia (Yap) are even more like government towns than Kolonia is.

Only 35 percent of the FSM population reported receiving an income in 1994. The median household income nationally was \$4,694 but there were significant variations between the states, from Pohnpei with \$7,503 to Chuuk with \$2,444. Though Chuuk had the greatest relative increase in income since 1980, it fares worse than the other three states both in terms of incomes and access to employment. Compared with the mean national income of \$5,954 a year, those in the public sector such as national government workers (\$12,447) and state government workers (\$6,873) enjoyed considerably higher incomes than the private sector employees (\$4,870). In urban Kolonia the mean income was \$9,865 though the nearby municipality of Nett reported higher household incomes, presumably because the national capital of Palikir is located there.

According to US measure used by the FSM census to assess poverty, 93.0 percent of all households were living in poverty (97.4 percent in Chuuk). The extent of poverty in the Federated States of Micronesia has not been assessed in any detail; more detailed data is needed, including the extent to which particular groups in urban areas are unusually disadvantaged. Historical information indicates that the Polynesian residents of Porakiet were disadvantaged in their access to land, fisheries resources, and employment (Lieber 1968) but whether this remains true is not known. Similarly, anecdotal information suggests that outer island migrants in Sokehs are disadvantaged and discriminated against but data to confirm this do not exist. Information is also missing on urban residents' access water supplies, power, and adequate housing, though it is apparent there are considerable variations within and beyond the urbanized areas.

## THE CONTEXT OF URBANIZATION

### **Kiribati**

A small proportion of the national labor force has always been employed in the formal sector and this fell after the closure of the Banaba phosphate workings in 1979. By 1990, 28.5 percent of the workforce was in the formal sector, representing a considerable growth in the ability of the formal economy to absorb workers in the late 1980s. The proportion of workers in the subsistence and semisubsistence sectors in Kiribati is the highest in Micronesia, and those sectors will continue to absorb much of the workforce. In 1990 about 60 percent was still in the subsistence sector though that had fallen from 75 percent only five years earlier. Collectively, these agricultural workers only accounted for some 15 percent of gross domestic product in 1988. Some 45 percent of all wage and salary earners lived in South Tarawa in 1990 and another 46 percent were located elsewhere in the Gilbert Islands chain.

As in the other three Micronesian countries, the public sector of Kiribati accounts for at least two-thirds of all wage and salary employment and has maintained that share of the workforce since the 1970s. In South Tarawa the urban informal sector (primarily petty retailing by women) has grown in recent years to provide incomes for at least two hundred people. Not promoted by the government, this growth is a reflection of the lack of cash employment opportunities, a decline in shipping line jobs, and the growing involvement of urban households in Bonriki and Buata in growing vegetables and producing locally made cigarettes.

In 1990 a total of nine hundred I-Kiribati (2.8 percent of the labor force) were categorized as unemployed, but the real size of this group is probably much larger. Because there has never been a labor force survey in Kiribati, the census (not yet available for 1995) provides the only measure of unemployment. Earlier estimates (assuming that all males of working age not employed in the formal sector would like to be so employed) have produced levels of male unemployment for South Tarawa as high as 50.0 percent since the late 1970s. Even if such estimates are too high (Miles and others 1992, 91-92) the extent of urban unemployment is nonetheless very considerable.

Data on income distribution and poverty are largely absent. In the 1970s

there was some evidence of urban income inequality and attempts were made to redress the problem (Connell 1983b, 18). But judging by the considerable differences in housing standards that can be seen even over very short distances, there is little to suggest that inequalities have been reduced. A 1996 survey found urban household sizes to be high (averaging 7.3 persons), and in some cases several households live under a single roof. About 82 percent of urban households have access to electricity but fewer than half have piped water. Reported household incomes ranged from \$50 to over \$10,000 yearly; these figures are probably unreliable, but they suggest both that subsistence activities remain important within the urban area, and that income inequalities probably remain considerable. The survey also found that alcohol abuse is a growing problem, along with high school dropout rates, crime, and vandalism (Atoll Research Programme 1996).

The problems experienced in the late 1960s during the first phase of urbanization in Kiribati—including overcrowding, rising crime, water supply problems, and the degradation of land and lagoon—have not diminished in subsequent years. Unemployment has remained at consistently high levels and urban household size is higher than in most other island countries. At the start of the 1980s illegal settlement on water reserve areas in Betio was becoming a problem for the Public Utilities Board; shantytowns were growing in the three urban areas of Betio, Bairiki, and Bikenibeu. Poor housing, sanitation problems, and the absence of amenities were leading to unacceptable levels of health and nutrition. Health improved in the 1980s despite an increase in some mainly urban “lifestyle diseases” such as bronchitis and venereal disease. But continued use of lagoon foreshores for defecation has meant that the extent of certain illnesses and waterborne infections has not diminished and in South Tarawa the potential remains for epidemics like that of cholera in 1977.

Problems of urban life in Kiribati, while substantial, have not worsened significantly in the 1980s and 1990s, but the country as a whole is still extremely impoverished and remains, by most criteria, one of the Pacific region’s poorest countries. Basic needs of education, good health, sanitation, and clean water are generally less well provided for here than in the other island states.

### **The Marshall Islands**

Many studies in the 1960s and 1970s pointed to the social, economic, and health problems of those living on Ebeye and Majuro, but in recent years there have been no studies to measure the changes (if any) that might have occurred in urban life. Thus it is not possible to gauge the extent to which many efforts to ameliorate urban problems have been successful. Employment is concentrated in the government sector but, because of the development of services around the military base at Kwajalein, this is the only country in Micronesia where private formal sector employment actually exceeds that of the public sector (though this may change as the expected reduction in significance of the Kwajalein missile base occurs). Genuine private sector employment is rare, contributing less than 5 percent of the gross domestic product; instead, economic activities are highly dependent on government expenditure and external financing.

At the time of the 1988 census some 54 percent of the working age population in the Marshalls were economically active: 77 percent of males and 33 percent of females. Of those economically active, 87.5 percent were employed, giving an unemployment rate of 12.5 percent. The unemployment situation was worst in Majuro with 17.0 percent and Ebeye with 14.6 percent. Overall, urban unemployment appears to be higher in the Marshall Islands urban centers than elsewhere in Micronesia. The most affected were men and women between 15 and 29, with the highest rate (45.0 percent) among females age 15–19 (36.0 percent of males in the same age group). The high unemployment rate is more severe in its implications because of the absence of a subsistence sector there.

At the national level employment in 1988 was shared between the public sector (34.0 percent) and the private sector (33.5 percent), with the remainder self-employed or unpaid family workers. In terms of occupations, the single most important category was that comprising production workers, transport equipment operators, and laborers, making up 32 percent of those employed. This was followed by agricultural and fisheries workers at 21 percent, and professional, technical, and related workers with 17 percent. The census provides no data on variations between atolls, or between rural and urban areas, and there are no



specific studies of the urban employment situation. There are also no formal data on income distribution and poverty in the Marshall Islands, but there is considerable evidence of urban poverty manifest in poor nutrition and housing conditions. Social pathologies such as increasing incidence of child abuse, malnutrition, and deviant behavior are not unusual where many mothers are young, unmarried, and without traditional support mechanisms. Communicable diseases associated with poor water and sanitation are among the leading causes of childhood morbidity. Very high levels of child malnutrition revealed by a National Nutrition Survey in 1990–91 (Palafox 1991) were partly associated with increased consumption of certain imported foods. Various sexually transmitted and noncommunicable diseases such as asthma and bronchitis have increased, partly as a result of overcrowding as household sizes grew from 8.4 in 1973 to 8.8 in 1988 (World Bank 1994, 121). These household sizes were therefore higher even than in urban Kiribati, and thus account for some of the social problems that occur in the urban areas.

### **Palau**

The 1986 census provided some broad indications of the structure of the economy in terms of employment. Of the 4,467 persons in the monetary sector, rather more than half—2,541 people (57 percent)—were employed in government and community services. By contrast just 194 people (4 percent) were employed in agriculture, fisheries, or forestry. Only 603 claimed to be working in the nonmonetary sector. Since most of these were women producing food, this suggests that the primary sector is of minimal significance in Palau in terms of income generation and employment. Some 971 people claimed to have been in some way engaged in nonmonetary production in the previous week; of these 605 worked for nine hours or less, and more than half took part in fishing, suggesting it was very much a part-time activity. Much the largest sector of employment after government was retail trade and related activities (including hotels and restaurants), which employed 847 people (19 percent of the workforce). This was the only important sector of the workforce in which women outnumbered men, suggesting strongly that wages in this sector were

## THE CONTEXT OF URBANIZATION

relatively low (in contrast to the public sector, in which 61 percent of all were men). Construction employed 410 people and the manufacturing sector only 84 (just 2 percent of the workforce). Employment was therefore absolutely dominated by the public sector, a privileged area of predominantly male employment. Not surprisingly, more than two-thirds of all college graduates worked for the government.

There is little recent information to give a picture of the urban economy of Koror since the 1986 census, though it is unlikely there have been substantial changes there in the last decade. The 1991 Household Income and Expenditure Survey (POPS 1992), which provides interesting insights on Palauan culture and some aspects of the economy, estimates that as much as 20 percent of household expenditure is for gifts and obligations of various kinds. Remittances from offshore by way of customary obligations were estimated in the national master development plan to amount to as much as \$2 million per year (SAGRIC International 1996). Most of the detailed information, however, dates back to 1986. At that time the majority (61 percent) of urban workers were employed in the private sector, compared with 39 percent in government service. A further 102 public servants were located in Airai, giving Koror and Airai 82 percent of all government employment in the country. But an even higher proportion of private sector workers (97 percent) were in the same two places. Thus an extremely high proportion of all wage and salary occupations is concentrated in the only recognized town, and the few public sector jobs elsewhere provide most of the wage incomes in the rural areas. For the country as a whole only 603 individuals (501 of whom were women), mostly in the rural areas, claimed to be working in the nonmonetary sector. This indicates the decline in the subsistence sector in Palau and the extent to which the majority of the workforce is dependent on wages and salaries. Not so obvious is the fact that half of all those employed in agriculture, fisheries, and forestry are also in Koror. Some 668 Koror residents (11 percent of the workforce) were officially recorded as unemployed in 1986, suggesting an increase in urban employment over previous years. Overall, the little confirmation that is available suggests that the urban economy of Koror is very similar to that in other towns in the Micronesian region. Similar too is the challenge facing the

Palau government in achieving a sustainable level of economic growth and development in the future.

### **Conclusion**

The challenge of achieving economic growth through other than tourism and fisheries has been considerable in the Compact states; less mainstream strategies have become significant in recent years. The Marshall Islands, for example, has established itself as a flag of convenience nation and has had some success in registering vessels and selling passports for \$33,000 (up to a limit of 3,000) in a move aimed primarily at Hong Kong and Taiwan. There has also been extended consideration of hazardous waste disposal on one of the contaminated northern islands but nothing has yet come of this unusual form of increasing national income. Each of the countries demonstrates broadly similar problems of great dependence on external cash flows and substantial trade imbalances along with large public and tiny private sectors. In the Federated States of Micronesia extraordinary distances, different languages, and conflict and competition among the component states make the task of achieving progress in development extraordinarily difficult. In Kiribati the distances are even greater but cultural uniformity simplifies some aspects of the development agenda. In Palau tension between established populations and more recent foreign migrants has introduced problems that are absent in the other countries.

Until very recently most development plans constituted lists of projects and poorly coordinated programs containing little or no integration, forming a "shopping list" of items that seemed to respond more to the perfunctory demands of the bilateral aid agencies than to the priorities of the countries themselves. This "client" status has long been the lot of small developing countries and has served to relegate some major development issues to an almost invisible presence in the development plans. It is extraordinary, for example, that despite the importance to economy and society of the small national capitals in all four countries, the problems and future needs of these towns are not singled out for special attention. There is a strangely aspatial feel to the national plans that can accord more importance to invisible sectoral divisions in the economy than to the actual

## THE CONTEXT OF URBANIZATION

location of most economic activity. None of the current national plans in Micronesia (FSM, Kiribati, and the Marshall Islands) or major national planning reports referred to in this paper include a single map of any town in Micronesia, nor do they otherwise relate significant socioeconomic data to the urban physical locations where governing jurisdictions are obliged to address them. Development plans need to be responsive to regional variations, and statistics offices must assemble data that differentiate between places.

Economic options are limited, however, and those that are worth pursuing will be located in or close to the main towns. The economic future for Palau is representative of conditions in the whole region and has been clinically summarized in the 1996 national master development plan:

In pursuing economic growth, Palau, in common with all Pacific Island countries, has little option but to follow the strategy of seeking an expansion of the private traded-goods sector (exports and import replacement). Its domestic market is simply too small to even consider an inward-looking strategy. However, as the goods and services offered by Palau can be readily obtained elsewhere, economic policies must be guided by the principle of enhancing international competitiveness. In addition, all policies and regulations should be examined with a view to assessing the costs of compliance and enforceability. If regulations are unable to be enforced or incur substantial compliance costs, the resulting market distortions and inefficiencies will discourage investment and retard economic growth. (SAGRIC International 1996, 3-17)

This is blunt enough, yet the challenges facing the Marshall Islands and the Federated States of Micronesia are even greater, both because of the fragmented structure of the countries and because of the decline in Compact funding. Although the Compact provides for talks on post-Compact relations to begin in 1999, the Marshall Islands has sought to bring these forward (but has been stalled by the United States), and the decline in aid is likely to continue. In Kiribati, where the option of emigration is unavailable, the economic prospects are no better. The problems of achieving economic development in Micronesia emphasize those of other small island states in the Pacific region: limited resources and high population densities on remote islands; great distances from markets; and limited resources of all kinds. These problems are

## URBAN ECONOMY AND SOCIETY

exacerbated, first, by rapid population growth and excessive urban bias in many key sectors; second, by the cultural differences within some countries; third, by an obsession with the physical symbols of political development in the Compact states; and fourth, by the probability that external funding will decline. It is in this very difficult economic context that the problems of urban management must be considered.

---

## **Part 2**

### **Urban Development Issues**

---

## Urban Management and Planning

Majuro, being the capital of the Marshall Islands and experiencing extraordinary population growth trends, has problems of a similar sort to a typical third-world city: parts of the city blighted; stretches of roads with large potholes and puddles large enough for children to play in; garbage piled up by the road side; obsolescence in housing areas giving a typical slumlike appearance; all these are what one would observe in any third-world capital city. However, the similarity stops there. In the case of Majuro this situation is further compounded with problems related to governance of the area and its fragile atoll conditions.

United National Center for Human Settlements and United Nations Development Program, *Review of Human Settlements in Pacific Atoll Nations: Republic of the Marshall Islands, Republic of Kiribati and Tuvalu*

THE POOR URBAN conditions described here in Majuro are very typical of all state capitals in Micronesia, as are the special problems relating to urban governance and the urban impact on fragile coastal environments. These places are largely unplanned in their recent phases of expansion, reflecting a weak institutional development control process and a prevailing context of free enterprise. "Why does planning not take place, or, when it does take place, why is it so haphazard? Micronesians have neither the training nor cultural inclination for planning. The backstopping for planning has always been provided for them" (Ballendorf 1991, 3). Indeed, there is very little evidence of urban planning in Micronesia; the only examples of large-scale planned development are the FSM capital at Palikir in Pohnpei and the proposed new capital for Palau on the island of Babeldaob. As Ballendorf observed, these were both initiated by outside forces before either country became independent and, in the case of Palikir at least, the results do not measure up to what might be expected in a small, fully planned, urban community. Palikir is little more than an isolated collection of government buildings

without services—ironic on an island that also has Nan Madol, one of the ancient wonders of the Pacific, and one of the earliest townships in Oceania. The organization required for the implementation of such grand schemes is no longer evident.

Present urban conditions in the national capitals of Kiribati, Marshall Islands, and Palau, and the state capitals of the Federated States of Micronesia, are a result of a wide range of forces already identified in this paper. The ability of these island countries to respond effectively to them is conditioned by some well-known constraints. Many of the barriers limiting progress toward western-style economic development also act to complicate and reduce the effectiveness of policies designed to cope with the more obvious urban problems in Micronesia (SAGRIC International 1996).

#### *Historical and Cultural Forces*

Among the most important of the constraints on adopting more modern forms of urban management and planning are the uncertain effects of local decision-making processes; the existence or lack of development incentives; retarded institutional development; evolving property rights; and fragmentation of authority between small state and national bureaucracies. There is insufficient space here to examine all of these, but characteristics of Micronesian decision making and institutional development are examined by way of illustration. The point is made in the new *Palau National Master Development Plan* that the preference for close and protracted negotiation found in traditional village society persists in present attitudes: most people “still regard the need to co-exist peacefully as more important than settling matters in the western capitalist mode with its perceived win/lose outcomes of definitive transactions” (SAGRIC International 1996, 3-1). The result is said to be lengthy and cumbersome decision making under circumstances in which interpersonal relationships dominate the social system. At the same time these values do provide a social “safety net” that mitigates against absolute poverty and exclusion in Micronesian societies.

In the institutional arena a national focus on redistribution (particularly of Compact funds) rather than on longer-term development issues has prevented the



## URBAN DEVELOPMENT ISSUES

evolution of strong political party platforms and a sense of accountability in national terms. This reportedly reduces abilities to implement policy and results in noncompliance with rules established by formal organizations. Public administration has been "increasingly devolved to boards and authorities which decentralize decision making for social stability reasons, at the cost of allowing private interests to distort public decisions away from national welfare considerations" (SAGRIC International 1996, 3-2). Governments lack the political will and the incentive to establish genuine national development policies rather than pursue sectional, personal, and regional interests, resulting in a situation that is particularly divisive in Palau, but everywhere is inadequate for the tasks ahead.

### *Population, Labor Market, and Migration*

In most of Micronesia a standard of living that is relatively adequate in comparison with developing countries is not supported by local productivity. This has necessitated the introduction of more cost-effective foreign labor in Palau, the Marshall Islands, and parts of the Federated States of Micronesia. Foreign workers, many of them from the Philippines, dominate the urban economy in areas such as construction, hotel services, and manufacturing. The search for public sector employment fuels migratory pressures, largely from outer islands to the capitals. Labor substitution in the former trust territory connected with unrestricted access to the US labor market acts against efforts to train and retain skilled Micronesians in the urban economy. Equally significant is the wage and salary structure, especially in the Compact countries, which provides few incentives for skilled workers to enter the private sector; thus most work for the government.

### *Failures in Planning*

Although the former trust territory had codes in place that allowed the establishment of planning commissions, little serious land-use planning has been undertaken in Micronesia until very recently. "Some plans fail to be adopted after completion. Other plans are circumvented, ignored, or otherwise rendered impotent after adoption. This historic lack of success has often resulted from the

rigidity of initial zoning decisions which were embraced for political, social, emotional, or personal reasons, and which ignore the dynamics of existing and potential future economic forces" (SAGRIC International 1996, 7-5). Broadly, such detailed planning is widely perceived as an alien enterprise. The failure to engage in good urban "housekeeping" (Connell and Lea 1993, 1) has resulted in the haphazard and uncoordinated mix of land uses found in all the national and state capitals, apart from the small new federal center at Palikir. Controls over land use are particularly weak since almost all land is privately owned and more or less beyond the reach of any attempted national legislation. In most towns no zoning exists and in others it is poorly implemented. In Majuro a primary school has been located next to a large fuel storage installation in the heart of the Darrit-Uliga-Dalap urban area, putting the lives of children at risk (UNCHS and UNDP 1994). More generally, the mix of residential and service activity reduces the efficiency and effectiveness of service provision. Elsewhere, towns in the region are characterized by many half-completed buildings and poor or nonexistent infrastructure in many suburbs.

### *Environmental Planning*

A historic emphasis on health and sanitation in urban land-use plans has done little in the past to win the battle against pollution and reverse the negative environmental impacts of poor development decisions. A more effective response has been the emergence of major regional institutions like the South Pacific Regional Environmental Program (SPREP), which has contributed to the development of national environmental protection legislation in all Micronesian countries. Although this has often been successful in focusing popular attention on the environment, it has become increasingly important to achieve integration of environmental planning with other forms of planning at all levels of government. Most of the difficulties that prevent better controls from being brought to bear on development in an urban municipal context apply with equal force to the protection of the environment. All Micronesian countries now possess environmental protection agencies and enabling legislation and most have prepared national environment management strategies (NEMS). The challenge currently

## URBAN DEVELOPMENT ISSUES

being addressed is to integrate environmental considerations into the newly strengthened land-use planning procedures under circumstances in which technical skills and financial resources are very limited and any form of bureaucratic intervention is resented. That this process still has a long way to go is reflected in the sectoral focus of many environmental planning reports. An examination of the thirty-eight references used in the preparation of the NEMS report for Federated States of Micronesia (FSM 1993b) indicates that, apart from a legal review (Harding 1992), planning for the built environment is not considered; other major concerns, such as the impact of providing public utilities, are also omitted.

In the Federated States of Micronesia, Kiribati, and Palau, current efforts to improve urban management and planning recognize the importance of popular participation in setting development goals and priorities. The way these were established and their scope are briefly compared here before examining the urban planning situation in each country in more detail.

### Land-Use Planning Goals

Goal setting is a significant but usually underrated aspect of plan preparation in many countries. It is important to gain some idea of what goals address and how they were formulated. Plans are meaningless without goals and objectives and thus one might imagine great care would be taken in their identification. Currently, the *Federated States of Micronesia Second National Development Plan 1992–1996* (FSMOPS 1992), the *Kiribati Seventh National Development Plan 1992–1995* (KNPO 1992), the *Republic of the Marshall Islands Second Five Year Development Plan 1991/92–1995/96* (MIOPS 1991), and Palau's *Economic Development Plan* (Republic of Palau 1994) all contain broad economic development goals but they pay very little specific attention to urbanization. Despite the number of urban residents and the particular problems experienced in towns, urban issues are rarely identified separately (though outer island issues usually are). The plans are not land-use plans; rather, they take the form of economic blueprints comprised of chapters on sectoral issues and a selection of prioritized projects and budget allocations. How the development

“goals” included in these documents were derived is somewhat uncertain because this aspect is little discussed. It is more than likely some goals were identified solely by the technical teams that put the plans together. Very often in small Pacific countries these teams are directed by expatriate public servants on short-term contracts. The goals are broad in the extreme and appear to differ little between plans, which further explains why planning is widely perceived as an alien activity. Of the four plans listed here, only the FSM plan mentions government involvement in setting the planning themes; workshops were undertaken in the various FSM states. The consultation process was significant in the Federated States of Micronesia because of the federal structure and the necessity to achieve some degree of equality and balance between the states. Elsewhere the extent of public involvement was more limited.

There is an important distinction between the established national economic development plans for each of the four countries and several more recently completed land-use plans. Planning at the local or state and municipal levels requires a much more detailed spatial dimension and the consideration of development activity in its physical locations. Goal setting in the land-use plans is usually altogether different from that for the development plans and arises out of considerable consultation with all sections of island society. Opportunities are also given in most instances for the plans themselves to be reviewed in draft form before adoption by the government. Each country, apart from the Marshall Islands, now possesses at least one up-to-date land-use or master plan document designed to address the numerous physical problems arising from growth and development. In the case of the Marshall Islands, a Planning and Zoning Act was enacted in 1987 but has not been enforced owing to the closure of the physical planning unit; consequently the existing land-use development plan is inoperable (MIOPS 1991). Only the urban management plan for South Tarawa out of the three plans discussed in this section has been formally adopted by the government. A major and recent review of human settlements by the United Nations (UNCHS and UNDP 1994) covered the Marshall Islands, Kiribati, and also Tuvalu, and made numerous recommendations, but because it is not a locally prepared plan document it is not as significant to this discussion.

*The Pohnpei State Land Use and Zoning Master Plan Working Draft*

(PSLUZMPTF 1995) was prepared in the second half of 1995 by a task force assembled by the State Land Use Planning and Zoning Commission. The task force included members from state and municipal agencies and three technical consultants appointed from the Micronesia and South Pacific Program of the University of Oregon. The Pohnpei State Land Use Planning and Zoning Act determines that twelve elements are to be covered in the plan, and goals are listed for each element. "The task force consulted with several municipalities, state, federal, semi-autonomous, non-governmental, and private agencies in order to develop goals, policies and strategies" (PSLUZMPTF 1995, 1-4). However, in this schema the special problems of urbanization in the Kolonia urban area receive little specific attention. Kolonia Town is recognized as the only urban ecosystem in the state, having 20 percent of the population and growing at a rate of some 5 percent a year. Pollution has increased because of poor safety standards for the storage of hazardous materials, mixed land uses, the presence of domestic animals, and industrial uses; flooding has followed land clearance. Expansion of the urban area into other parts of Nett and Sokehs municipalities has made the need for effective development control urgent. The land-use and zoning act mandates a major community education and participation exercise to facilitate discussion and inform people about the importance of land-use planning. A special education committee, to be assembled by the task force, will have five years to conduct community consultations. Although this would appear to be an inordinately long-drawn-out process by western standards, it is realistic in a Micronesian context where there are such special attachments to land and where both traditional and local government interests demand full representation. The progress of the Pohnpei consultative committee will be viewed with great interest in other Pacific Island states.

*The Urban Management Plan for South Tarawa, Republic of Kiribati*

(KMHARD 1995) A series of workshops was arranged by the Planning Section of the Ministry of Home Affairs and Rural Development in Kiribati during 1993,

1994, and 1995 in response to the growing problems associated with rapid urbanization in the South Tarawa centers of Betio, Bairiki, and Bikenibeu (see KMHARD 1993; Jones 1994). These led to the identification of key issues and the establishment of a task force, the South Tarawa Urban Management Committee, to prepare an urban settlement strategy and coordinate the work of government agencies (Chung 1994). The seven aims and objectives of the plan arising out of this lengthy consultation process are based on an appreciation of four background issues that condition attempts to manage urbanization in Kiribati: first, land-use and environmental planning are not traditional activities and are generally alien to the I-Kiribati way of life; second, traditional outer island lifestyles are likely to dominate urban ways in South Tarawa for some time; third, South Tarawa's urban transition is population-led rather than based on economic progress; and fourth, sociocultural factors are likely to maintain existing social and power relationships in the face of changes needed to accommodate pressures of urbanization (KMHARD 1995).

*The Palau National Master Development Plan, Revised Draft Final Report* (Foundation for Development, March 1996) contains a much fuller than usual account of the participatory process whereby workshops and consultations were organized to determine a national vision, development goals, strategies, and policies. After the initial workshop in mid-1993, consultative groups were formed to identify areas of concern. A planning workshop attended by sixty government and community leaders followed in December 1993, and a national forum on the development agenda was held in early 1994. Significantly, this consultation continued throughout the preparation of the plan, culminating in six formal meetings on the first draft master plan after its submission in July 1994. These six meetings included the Council of Chiefs; traditional women's leaders and organizations; national government representatives; state government representatives; the private sector and industries; and a general public meeting. Written submissions were also called for and received by an October 1994 deadline, making this planning exercise in the Pacific one of the most participatory on record. In all, some one hundred meetings, five hundred interviews, numerous group work-

shops, and a national forum were held (SAGRIC International 1996). Besides the importance attached to consultation in Palau's national master plan, there is the unique inclusion of a major assumption that conditions the whole planning process: "that long-term sustainable social and economic development is preferable to more rapid short-term development at the cost of future generations in Palau" (SAGRIC International 1996, 1-4). The point is also made that Palau is fortunate through its Compact funding to have time to plan with foresight, a luxury not available to most developing countries (although one that has brought little real benefit to the Federated States of Micronesia and the Marshall Islands).

Questions remain in all the plans illustrated here as to the extent to which they can and do accurately represent the sovereign wishes of these independent countries rather than those of sponsoring agencies, aid donors, or even technical consultants. The answer is not easy to ascertain except in the way it may be reflected in the acceptance or rejection of the planning provisions themselves. There is plenty of evidence to show, for example, that earlier attempts at land-use planning in all four countries have not met with success: "In 1968, a team of architects and engineers from Hawaii drafted Pohnpei's first land use master plan. . . . The 1968 plan also designed a master plan for Kolonia Town, created zones for residential, school, civic center, commercial, industrial, hotel and resort, recreation, and conservation. Kolonia's development followed some of this plan's zone designations and designs, but few were enforced. Today, Kolonia is far from what was envisioned in 1968" (PSLUZMPTF 1995, 1-2).

Similar plans were produced for other urban centers but were almost entirely disregarded. They were classic examples of the irrelevance of formal western-style planning to Micronesian circumstances. Plans are also a powerful means of changing community attitudes and their intentions in this regard are occasionally made explicit. For example, in the *Palau National Master Development Plan* (1966), the comparative affluence enjoyed by many Palauans today is related to the artificial financial circumstances prevailing in Palau until the year 2009 under the Compact agreement: "In the consultation process, possible strategies to achieve the stated goals were identified. While there is considerable resistance in

the community to a strong focus on economic growth strategies, this will need to be overcome. It reflects a lack of comprehension of the task required to sustain current lifestyles after US assistance is removed" (SAGRIC International 1996, 3-13).

### **Land-Use Planning in the Federated States of Micronesia**

The FSM capital at Palikir was dedicated on 3 November 1989 but planned some twenty-five years earlier on two hundred acres of land set aside for the purpose by Pohnpei State, in the hope of attracting the new complex. Construction began on 9 February 1987 and the small group of nine buildings cost some \$11 million (Ballendorf 1991). There were difficulties in gaining site access and cooperation in the venture from local landowners. The urban planning that was done was very limited: "No planning was done for the general integration and harmonizing of the wider Palikir community, such as the provision of restaurants, lunch counters, and other support facilities that would naturally be a part of any such contrived development located some six miles from the main center at Kolonia" (Ballendorf 1991, 2-3). Palikir is not a new "town" in the normal sense of this term but remains a small administrative enclave set apart from the normal growth and urban activity in Kolonia; hence the cost of national administration has increased. An opportunity was lost to develop the federal capital as a multiuse center but the reasons for this are linked to problems with land and interstate relations.

*The Federated States of Micronesia Second National Development Plan 1992-1996* is an educative document that reviews the shortcomings of the first national development plan and the role of the planning process in development. Because of the wide geographic dispersion and distinctive island characteristics of the four states, it is of considerable importance that they come up with their own development plans. Each state has a strategic plan for overall economic development, but only in Pohnpei is there a state land-use plan that seeks to standardize physical development in all municipalities. A considerable percentage of Compact funds is mandated for expenditure in the municipalities, and municipal plans are at various stages of completion. None of the states is yet the target for the major tourism development so characteristic of neighboring Guam and the



## URBAN DEVELOPMENT ISSUES

Northern Marianas, and this together with the relatively small populations and low rates of economic growth has reduced pressure on physical development.

*Chuuk State* has thirty-nine municipalities but does not require them by law to prepare plans. A process exists for establishing planning commissions in each municipality to prepare a plan but few have taken this step. In any event, the utility of such plans is doubtful given the lack of any statewide agreement on zoning and other development control provisions.

*Kosrae and Yap States* are the two least urbanized parts of Federated States of Micronesia, and little information is available about urban management and planning in the capitals of Lelu and Colonia. Kosrae has four municipalities and their planning requirements have been incorporated into the state development plan in the past. The small population of Yap proper lives in Colonia and 129 villages scattered among the ten municipalities. Only Rull has a charter and the urban area of Colonia spans parts of Rull and Weloy municipalities. Yap's first social and economic summit, held in February 1996, affirmed the state development goal as being "a self-sustaining economy and society" (*Yap State Bulletin* 16 February 1996), but the sustainability or demise of public sector projects affecting Colonia was not mentioned in press reports of the summit. The expansion of marine-based industry, particularly fisheries, in the Colonia port will require special development policies and controls if it is to be accommodated in this small town.

*Pohnpei State* is the most advanced in Federated States of Micronesia in seeking to standardize the management of physical development on a statewide basis. This has a good deal to do with Pohnpei's nationally leading position in economic development as well as the pressures it is experiencing from in-migration by other FSM nationals and foreign workers, and from urbanization in the Kolonia area. State law requires each of the eleven municipalities to prepare a comprehensive plan and this must be approved before the municipality can access state funds. But, as we have already noted, such planning has been of very limited success

and particular difficulties have been experienced in implementing planning controls. The land-use and zoning act passed by the State legislature in 1994 requires the planning commission to "create a land use and zoning master plan to guide proper and sustainable land use during the present and future years of rapid development" (PSLUZMPTF 1995, vi). The need for this plan is well overdue: "The truth is that land in Pohnpei's 'metropolitan' area is not utilized wisely to accommodate economic growth. There is no enforcement of zoning codes" (*FSM-JTPA News*, July–August 1995).

The new plan comes much closer than anything previously available to recognizing the complex mix of land uses that must coexist in an appropriate fashion in modern urban areas. Twelve legal land-use elements are required to be included in the master plan to cover: existing uses, housing, commercial, agriculture, local community design, transportation, public services and utilities, subdivision, safety, recreation, culture and tradition, tourism, and conservation. Goals, policies, and strategies are presented for each element. Though still incomplete, it is a practical document also containing sections on demography, existing land uses and conditions, and a zoning plan. The latter is designed to rationalize all previous zoning designations both at state and municipal levels and make the provisions of the land-use plan enforceable. The land-use and zoning act clearly spells out the need for such zoning to achieve objectives such as implementing the master plan, lessening congestion, promoting good health, preserving culture and tradition, preventing overcrowding and population congestion, facilitating provision of essential services, safeguarding property values, and developing good community design.

Besides the urban area of Kolonia Town, there are two other impact zones in the state where modern development has had a major impact on land use. In 1981 up to two hundred acres of land was released in Sokehs municipality for the construction of the federal capital of Palikir. This land, accommodating various public facilities, official residences, and public utilities to serve the federal government, is separated by several kilometers from Kolonia. The corridor in between is largely undeveloped but can be expected to come under considerable pressure to accommodate urban uses in future. A transportation zone was

## URBAN DEVELOPMENT ISSUES

established in 1987 on Dekehtik Island for the international airport, sea port, and associated land uses. This form of prescriptive zoning has not resulted in a desirable urban environment, as the following press report indicates: "Within the first 500 yards of the airport in Pohnpei, visitors see (and smell) our overflowing garbage dump, a half sunken former hospital ship, two big dredging operations, rusting cranes and other disregarded heavy equipment, and a roadside littered with garbage by people too timid to risk the dump's boglike road. The landfill (garbage dump) is a disgrace. Recently the fence was removed and the area bulldozed into a stinking, suppurating bog that is the first thing visitors see when they leave the airport" (*The FSM News*, June 1996). Pohnpei's draft land-use and zoning master plan recognizes that much of the area in the designated transport zone is mangrove swamp and unsuitable for land fill. When the leases held by existing nonconforming land uses (mainly nonindustrial activities) expire, they will not be renewed and the sites concerned will be available for permitted activities such as transport, industry, shipping, and fish processing.

### Urban Management in Kiribati

Plans to improve urban management in Kiribati are the most advanced in independent Micronesia. They arise out of the lead taken by the Urban/Land Planning Unit of the Ministry of Home Affairs and Rural Development to facilitate a joint approach to the problem and greatly increase the effectiveness of the Central Land Planning Board (CLPB). The Land Planning Act had been adopted by the government in 1977 and saw the creation of the Central Land Planning Board as responsible for the preparation of strategic plans for South Tarawa. In 1982 a report on urban management was commissioned by the United Nations to investigate several key issues related to the emerging crisis in South Tarawa (Larmour 1982). The six main issues are similar to those found in almost all Pacific urban areas and their intractable nature makes them as relevant today as they were fifteen years ago: the relationship between national and local government in the national capital; the problems and opportunities that will follow when separate local government areas on Tarawa are linked by causeways; the collapse of local government's revenue base; the possibilities of

contracting out refuse collection to the private sector; the role of the land tenure system in revenue collection for island councils; and ineffective physical planning under the Land Planning Act (Larmour 1982, 2–3).

With respect to the last issue concerning physical planning, the recommendation was to broaden its scope by preparing a structure plan for the whole atoll, together with changing government representation on the Central Land Planning Board to provide for more public participation and give greater powers to local boards. It was to be more than a decade, however, before serious attempts were made to prepare an urban management plan. The process that culminated in the production of the *Urban Management Plan for South Tarawa* (KMHARD 1995) began in 1993. Besides covering the usual sectoral urban development issues, the South Tarawa plan is the only one of its kind in the region to consider the institutional implications of improved urban management in detail. Table 7 indicates the extent of urban management functions covered by various parts of the three tiers of government. But even this complex array of actors does not manage to cover the whole of South Tarawa affected by the impacts of urbanization:

The focus of the CLPB is only within the designated village areas—Betio, Bairiki, Nanikai and Bikenibeu—as the remainder of South Tarawa has not been designated by the Government for urban planning and management purposes. As such, there exists no overall or regional management approach for land-use and development in South Tarawa. The CLPB and BLLPB [Betio Local Land Planning Board] have no budget resources for implementation and as planning committees, they ultimately depend on other agencies such as the [Public Utilities Board] to undertake urban development and urban infrastructure works. Given a combination of an absence of high level representation on the CLPB, the lack of co-ordination and integration between agencies, the absence of a single stand-alone policy document for South Tarawa for use by all key players, and a general lack of commitment to tackling the enormity of the urban issues at hand, the result is that many of the Central Government agencies identified in [table 7] act in isolation from other players. (KMHARD 1995, 28)

# URBAN DEVELOPMENT ISSUES

**Table 7. Urban Management Functions in South Tarawa by Tier of Government**

Task	Central Government	Local Government
Urban infrastructure	Public Utilities Board	Nil
Economic development	Ministry of Finance and Economic Planning	Nil
Waste disposal	Nil	BTC/TUC
Roads and causeways	Public Works Department	Nil
Development and subdivision	Ministry of Home Affairs and Rural Development Public Utilities Board Public Works Department Kiribati Housing Corporation Ministry of Environment and Social Development	BTC/TUC
Managed land supply	Nil	Nil
Land-use plans and development standards	Ministry of Home Affairs and Rural Development	BTC/TUC
Public housing (excluding civil service housing)	Nil	Nil
Population, public and community health	Ministry of Health and Family Planning	Nil
Education and schools	Ministry of Education, Science and Technology	Nil
Resource extraction (sand and gravel)	Ministry of Home Affairs and Rural Development Ministry of Natural Resource Development Ministry of Education, Science and Technology Public Works Department	Nil
Environmental assessment and control	MESD (Ministry of Environment and Social Development) Ministry of Home Affairs and Rural Development	Nil

*Source :* KMHARD 1995, Table I.

## URBAN MANAGEMENT AND PLANNING

A very small urban planning section (staffed by two technical personnel) is located in the Lands and Survey Division of the Ministry of Home Affairs and Rural Development and is responsible for “progressing *[sic]* all urban planning and urban management matters on South Tarawa including providing planning resources for the CLPB, BLLPB and Village Area Committees, the preparation of Structure Plans for the main village areas, development standards, development assessment including environmental assessment (in the designated areas only), project documents such as those for land reclamation, CLPB and BLLPB training workshops, and strategic planning and policy matters” (KMHARD 1995, 28). Such is the reality of government resources in a small and poor Pacific Island state.

There is insufficient opportunity in this paper to cover more than a fraction of the important issues surrounding urban governance and urban management in Kiribati but the fact that they have been identified publicly in the *Urban Management Plan for South Tarawa* is to be welcomed and provides a model for other small Pacific Island countries to emulate. Among the central management recommendations are:

Ways must be found to strengthen local government.

A lack of coordination among interested and responsible parties is the main obstacle to planning, implementation, and action. The government’s development coordinating committee should be used to obtain a better mix of planning and implementation.

Land-use and environmental planning need to be integrated.

All of South Tarawa must be designated for urban planning purposes. The Land Planning Act requires review to bring it up to date and to move from an emphasis on land management to urban environmental management, planning, and assessment.

Key personnel are required to facilitate the implementation of the *Urban Management Plan for South Tarawa* and the South Tarawa urban development program.

This kind of planning is far in advance of anything else in Micronesia and is currently proceeding further through the Asian Development Bank-supported

## URBAN DEVELOPMENT ISSUES

Tarawa Integrated Plans and Programmes Study (TIPPS), which is reviewing the need for new urban infrastructure and the more specific structures to enable more effective urban management.

### **Urban Planning in the Marshall Islands**

The second five-year national development plan specifies the establishment of planning commissions in each local government council to conduct physical planning and zoning (MIOPS 1991), but given the closure of the physical planning office at the national level in 1987 this appears to be little more than rhetoric (UNCHS and UNDP 1994, 137). According to the 1994 UN mission the situation on Majuro is critical; a lack of land-use planning has led to an inefficient use of very limited urban space and poor housing conditions. There has been no formal urban planning in Majuro since 1968, though it may be stalled for social and political reasons. In Kwajalein implementation is much better because all land parcels on Ebeye except one are owned or leased by the Kwajalein Atoll Local Government, but the residential densities, at over 28,000 persons per square kilometer, have reached saturation. The Kwajalein Atoll Development Plan, formulated in 1985 and updated in 1991 and 1993, has not been able to guide growth on Ebeye because of the rapid pace of growth; the result is a haphazard collection of spontaneously developed land uses. Nevertheless, this plan has been better than no planning at all and has been used to guide infrastructure development in the Ebeye-Gugeegue corridor. After the completion of causeways, some spillover growth will be directed to the Gugeegue islet, which will accommodate as many as 250 housing plots (UNCHS and UNDP 1994).

National objectives have identified three newly urbanizing locations in the outer atolls at Jabor (Jaluit Atoll), Kili Island, and Wotje Island (Wotje Atoll) as progressively requiring the provision of urban infrastructure and services. These places could hardly be called urbanized at present but national policies designed to balance population distribution intend for them to attract migrants. Wotje's development master plan, formulated in 1972, is yet to be implemented. No effective physical planning legislation is operative in the outer islands. Even though there is very little new economic or social activity in the outer islands to

regulate or plan, planning legislation must be in place before badly needed improvements to air transport and other developments are undertaken (UNCHS and UNDP 1994).

### **Master Planning in Palau**

The recently completed draft *Palau National Master Development Plan* (1996) is distinctive in its attention to contextual factors underlying Palauan attitudes and wishes regarding physical development and change (SAGRIC International 1996). In Palau, as in other Micronesian countries, there are plenty of legislative provisions to enable widespread land-use planning activity to take place and to control nonconforming developments. Realpolitik has prevented local institutions from utilizing these provisions effectively and any appraisal of the urban management and planning situation must take local attitudes and practices into account. There is little point in drawing attention to a lack of plans when there are more fundamental reasons why more plans or stronger legislation would not make any appreciable difference.

As the draft master development plan points out, Title 31 of the Palau National Code grants powers to regulate land use and the quality and types of built structures. There is provision for a national planning commission and similar bodies to be set up in nine of the sixteen States. Zoning and subdivision laws for Koror are also in place but rarely acted on. Only Melekeok State has an up-to-date master plan and that is largely due to the location of the new national capital on twenty-two acres of land near Ngerdok Lake in that state. The contract for the design and engineering plans for the capital was signed in June 1996 and construction of government offices (the national legislature, judiciary, and executive) and support facilities costing \$27–35 million will start in two years (*Tia Belau*, 1 June 1996). The question why development controls are not used in most situations, however, requires further analysis.

The notion of development control is closely linked to western practices in land ownership and land-use management, and the national master development plan contrasts these with traditional attitudes toward land found in Palau. Four aspects in particular are singled out:



## URBAN DEVELOPMENT ISSUES

### *Legislation*

Legislation regarding control of land use and development is regarded as a mess. "There is no uniform building code applicable in Palau . . . ; the Koror Zoning and Subdivision laws are no longer effectively in force; penalties for violation of environmental laws have been dismissed on appeal due to inadequate delegation of power from National to State levels of government" (SAGRIC International 1996, 7-7). Enforcement under these circumstances is both a cultural issue and a measure dependent on necessary personnel and equipment. Attempts to change the situation must take both of these factors into account.

### *Capability of Resource Managers*

The states of Palau are very small entities with limited finances and skilled human resources and are generally in no position to demonstrate their important local knowledge of appropriate land-use practices. The scale of these governments is too small to attract the skilled personnel required; they will need to combine resources in order to overcome this reality.

### *Community Awareness and Knowledge*

A lack of popular understanding about the limits of sustainable development leads to unintentionally destructive land-use practices. The draft master development plan recommends research into land suitability to complement land-use planning.

### *Community Attitudes*

Long-term education is necessary to improve local knowledge about some environmental issues. These are wide ranging and encompass the location of dump sites and quarries, coral extraction from reefs, reef blasting, many kinds of pollution, land clearance, overfishing, and so on. Artificial separation of environmental and physical planning in some Pacific countries has reduced government abilities to educate effectively.

Koror is a primate city accommodating almost 70 percent of the national population, including as many as 4,000 foreign workers. It is here that physical planning provisions have broken down in a most evident way and where an effective urban plan is most necessary. Koror is a state capital and functions under state rather than national controls yet does not possess a comprehensive urban land-use plan. A key problem has been the lack of a national physical development plan with a spatial component that might encourage more balanced population distribution. The *Palau National Master Development Plan* (1996) seeks to take growth pressures off Koror by supporting the relocation of key national government functions to the future capital in Babeldaob; it also underlines the significance of the new Compact-funded perimeter road to be constructed on the same island (SAGRIC International 1996). According to Ballendorf (1991), the decision to construct a new capital was made because of overcrowding and the great expense and difficulty in acquiring the necessary land in Koror. He observed that there was a political dimension to the move as well, arising out of popular disenchantment with the traditional leadership in Koror. There was probably also a desire to construct a more modern symbol of the independent state, not unlike the costly FSM capital of Palikir.

The Babeldaob road, designed to a 24-foot width (the usual Compact standard is 18 feet), will be built by the US Army Corps of Engineers over a five-year period starting in 1996 (*Tia Belau*, 31 December 1995). It will open up a number of previously unavailable development possibilities on the "big" island of Babeldaob (settled by many thousands of Japanese between the two world wars, Babeldaob is now occupied by fewer than 5,000 people). In anticipation of the road's completion, pressure is already mounting from Asian tourism developers in search of prospective tourist resort sites large enough to include golf courses and other land-consuming activities. Babeldaob is increasingly seen as offering a future development alternative to the huge tourism-led investments currently underway on the islands of Saipan and Tinian in the Northern Marianas. Since a time frame is now in place for development, it is clearly important to establish suitable land-use planning provisions for Babeldaob before the road is completed.

All these plans have been jeopardized, however, by the momentous collapse of

the bridge linking Koror and Babeldaob on 26 September 1996, killing two people. It is hard to overemphasize the importance of this disaster because of the bridge's vital role in connecting the capital with the airport and the yet-to-be-developed big island: "Opening up the depopulated and underdeveloped lands of Babeldaob is widely regarded as the key to Palau's economic self-sufficiency and political equilibrium. Babeldaob is the source of Koror's water and power, is home to the international airport, is the site of a planned new capital to replace Koror, and the United States army is about to build an 85 km circumferential road. But vehicular access depends on the bridge" (*The Australian*, 6 January 1997). The development of Babeldaob has long been seen as "essential for the promotion of sustainable economic development and the well-being of the people of Palau" (President Nakamura quoted in *The Australian*, 6 January 1997) because of the opportunity it presents to reverse the drift of population to the overcrowded capital. The bridge incident itself is a stark reminder of the fragile infrastructural base on which most modern development in Pacific Island communities is founded. Even a temporary replacement bridge will take months to complete but there are already signs that the disaster is affecting the economy, with a downturn in tourist arrivals and postponement of developments on Babeldaob. From a planning perspective, the draft *Palau National Master Development Plan* (1996) still lies before the legislature awaiting approval, and the bridge collapse throws into doubt many of its key assumptions and forecasts.

### **Strengthening Planning Capabilities in Micronesia**

A simple appraisal of the progress of urban planning in the independent Pacific in recent decades suggests that it has passed through several identifiable stages depending on the level of urbanization and country concerned (Connell and Lea 1993; 1995). Producing plans is usually the easiest part of the exercise, followed by the problematic institution of legislation to implement them, attempts to actually use the plans and legislation and, finally, a realization that the institutions involved are in no position to exercise their powers adequately. Pacific Island countries are not alone in being confronted with this situation, of course, and major initiatives by the World Bank, Asian Development Bank, and other

agencies to promote better urban management are well known (World Bank 1995a). There is not much evidence from Micronesia as yet to show that governments are sufficiently aware of the need to strengthen municipal capabilities to undertake land-use planning functions effectively, and that the plans actually offer the potential for positive changes in the structure of national development.

Most governments in the region are aware of the inefficiencies of a poorly developed—or almost nonexistent—market in land but have yet to address some of the implications of improving it. The government of Kiribati recently commissioned a study of institutional strengthening of the Lands and Survey Division in the Ministry of Home Affairs and Rural Development to assist it in fulfilling its urban planning functions (Jones 1996). Managing growth of the population of South Tarawa, now estimated at 30,000, demands the ability to coordinate cross-sector urban planning issues and the efficient provision of new water and sewerage projects in particular. The elements of institutional strengthening involved are summarized here to illustrate some of the practical issues that must be overcome: providing assistance to the Lands and Survey Division to implement the urban management plan for South Tarawa through additional external and local expertise and training; supporting an approach to urban management that facilitates cross-ministry coordination; focusing efforts on attracting funding to provide required staff and expertise; and employing a multidisciplinary project team that focuses on outputs with more efficiency and accountability.

This institutional strengthening will assist in the major tasks of completing the urban management plan, introducing a land registration system, expanding cadastral surveys on the outer islands, the review of leased government land in South Tarawa, and overall public sector reform (Jones 1996). Once again, attempts to strengthen appropriate institutions for urban management are more advanced than anything else in the region.

Underlying tensions between traditional and modern ways are increased in the urban environment and, although this is often recognized as a particular problem in the Pacific, it is rarely addressed specifically in government policy. The inclusion, therefore, in Pohnpei's Land Use Planning and Zoning Act of 1994 (DL no. 3L-54-94, Section 4), of provisions to encourage local participation in the

planning process through special public education appears to be unique. It is too early to report on progress as the process has only just begun. Plans have been made to assemble an education committee to meet community leaders and “determine the best methodology for conducting a public education and feedback process within each municipality” (PSLUZMPTF 1995, 1–5). The five years allotted to complete an island-wide consultation does seem excessive by western standards but may also be a reflection of the care needed to allay fears held by traditional authority.

Although it is usually argued that urban planning and zoning controls are introduced to ensure orderly development and distributional equity in areas such as service delivery, it is true that most western cities are characterized by often substantial spatial inequality in the provision of social and physical infrastructure. Micronesian towns are collections of urban villages and generally lack the spatially well-defined income distinctions found in most other urban centers. Any attempt to modernize these settlements through the establishment of urban governance and planning must come to terms with land tenure realities. This in turn closely relates to the basis of traditional power and the way in which it is exercised in Micronesia. Despite the fact that there is little physical evidence of traditional ways in towns like Kolonia and Majuro, authority is effectively exercised through traditional means. In Koror, too, established social divisions and local politics help to explain why it is so difficult to secure agreement over development matters whose solution is obviously in the interests of all people in the town. Under such circumstances the introduction of land-use planning legislation is seen as a means of removing control over land from traditional authority and placing it in the hands of the government and the bureaucracy, just as it is in Polynesia (Connell and Lea 1995). The fact that both elected officials and civil servants in the region are also dominated by tradition does not make such a transfer any easier and has not yet resulted in enactment of physical planning legislation except in Kiribati. Ironically, it is the more traditional Tarawa, despite the political power of *kain Tarawa* (the people of Tarawa), that appears least affected by the influence of sectional interests. As a result the town has been more effective in developing planning mechanisms and a more modern

system of urban management.

The orderly and optimum development of cities rests on popular recognition of a desired lifestyle and the acceptance of the costs and benefits in achieving it. Urban planning is the means usually adopted by the government to conduct acceptable interventions in guiding and controlling development. Stripped to its essentials, urban administration in western democratic societies consists of a three-part package: first, the presence of popular support for government action to establish an urban administration; second, the preparation of technically appropriate plans; and third, a means of implementing the plans through an elected and accountable body. This model, inherited from colonial times in most of the South Pacific, is generally absent from Micronesia, despite the presence of two urban councils (Betio and Teinainano) in South Tarawa and municipal authorities in all other towns. Such councils are regulatory rather than concerned with development planning. There is little evidence that this form of planning is acceptable to or widely understood by local populations.

Land tenure lies at the heart of planning issues and there is considerable reluctance to, and difficulty with, reforming tenure systems. Much of the difficulty surrounding land development and planning concerns the interrelationship between tradition and modernity represented in very different approaches to the control of land use. Pressures to introduce new and sustainable environmental practices in particular have led to some debate and action to reconcile traditional and modern decision-making practices, but there remain substantial problems in achieving adequate environmental management.

In spite of a series of plans going back to the 1960s and various formal attempts to develop more appropriate management practices, urban management and planning in Micronesia is, by any standards, in its infancy. Only in Kiribati has there been detailed consideration of creating genuine urban management planning and procedures. While these are still to come into effect, what has been achieved in Kiribati is of some significance for its recognition of crucial issues, its success in addressing the principal problems, and consequently its value as a model for what is possible in Micronesia. Otherwise there are few effective organizations (even line agencies) below the national level, and the lack of effective urban

---

## URBAN DEVELOPMENT ISSUES

planning systems has contributed to problems in management and service provision. Changing this situation lies in the political rather than the technical sphere.

## Urban Land Policy

An area that needs attention is the regulatory environment, especially the land lease market. The FSM constitution prohibits non-citizens from acquiring land, most of which is communally owned. In some states there are 25 year limits on leases. Most foreign investment projects require approval by both the national and state governments. Viewed separately these and other regulatory matters may not appear as serious obstacles to expanding the economy's productive capacity. However, together they amount to costly and time consuming barriers which in some cases may not be overcome by returns to investors.

Bank of Hawaii

*Federated States of Micronesia Economic Report*

THE COMMUNAL FORM of land holding prevalent throughout Micronesia is usually viewed by outsiders as an institutional barrier to economic progress and investment. It is not surprising therefore that the above statement by the Bank of Hawaii on the economy of the Federated States of Micronesia is the concluding comment in their report. It also underlines the nearly universal opinion that there is little hope of diversifying and strengthening the economies of the Micronesian countries unless and until more certainty is introduced into local land markets. But most commentators recognize that in spite of certain disadvantages, communal land tenure is a key feature of traditional arrangements safeguarding social and political stability. It is noteworthy that this subregion of the Pacific has so far escaped the high levels of intercommunal tension over land of the kind experienced recently in Papua New Guinea associated with provisions contained by the World Bank's Structural Adjustment Policy.

It is clearly not possible in this paper to conduct an overview of the status of land in relation to economic development in the whole of Micronesia. Attention here must focus on the urban areas, which constitute a very small but increasingly



## URBAN DEVELOPMENT ISSUES

significant part of each nation state and where the pressures for land reform are greatest. It is also necessary to identify common issues and record the various attempts being made to overcome the most intransigent difficulties in land management. Most of the problems regarding urban land are similar to those identified in the rest of the independent Pacific (Crocombe 1987a; 1987b). The case of Micronesia is differentiated by the varying colonial experience of the four countries and the marked physical differences between capital towns in the small atoll states compared to those of countries with high islands where urban land resources are much more extensive.

This appraisal focuses on urban land conditions in each country together with the national and municipal governments' land policy responses to urbanization pressures. The picture is complicated in the Federated States of Micronesia where there are four state capitals, plus the federal capital of Palikir, and where land conditions vary considerably. Although the Federated States, Kiribati, the Marshall Islands, and Palau possess a great diversity of geographic features, landholding systems, and tenure characteristics, they also share some common regional attributes:

They all experienced a lengthy colonial period and thus acquired foreign administrative structures and legal systems that have strongly affected land use and tenure. This experience was not uniform, however, and sets Palau and the Federated States of Micronesia apart from the Marshall Islands and Kiribati, and Kiribati apart from the other three. These differences are reflected in the range of current land administration issues and legislative controls.

The circumscribed land conditions in the atoll states of Kiribati and the Marshalls are clearly different from the greater resources found in the much larger high islands of the Federated States of Micronesia and Palau; although there are many small atoll settlements in the latter countries, too, none are urbanized. Land is obviously at a greater premium in the atoll states, and urbanization there is characterized by very high density development and extreme pressure on urban services and waste disposal. Pressure to accommodate outer island and rural people in the capital towns is

a problem throughout the region.

Demands for more rapid land reform are generally focused on the urban capitals.

There are other development "hot spots" too, such as those arising from pressures to construct tourism facilities in fragile coastal locations. In some cases, newly acquired accessibility by air, land, or sea has widened the potential impacts of tourism development. On the big island (Babeldaob) of Palau, for example, the new perimeter road falls in this category, as it opens up lands that have remained unexploited since the period of Japanese settlement between the two world wars.

Throughout Micronesia social and economic changes have occurred that have altered the way people regard land. The introduction of the money economy and other western influences have weakened traditional ties with the land in varying degrees across the region. In particular the lineage no longer acts as the main economic unit, changing the relationship of the family to land (Hezel 1994).

### **Federated States of Micronesia**

The Economic Management Policy Advisory Team (EMPAT) currently advising the federal government has recently initiated a technical assistance project reviewing land tenure systems in the Federated States of Micronesia (EMPAT 1996). Some idea of the magnitude of the task is apparent from the size of the initial descriptive report which contains an overview and lengthy chapters on each of the four states. It comprises by far the most useful comparative overview available on conditions in the Federated States, where the importance of the land to the widely dispersed population can scarcely be overestimated: "Each state has a different heritage of customary land tenure and bases for land value. Most of the lands in each state are occupied by private land holders and are influenced to varying degrees by customary or traditional land tenure and land systems. Most of the privately held land in the FSM has not been surveyed, mapped or registered and titled. The absence of permanent records of survey and ownership increases present difficulties of land transfer, sale or lease; memories fade,

different claims for ownership exist, the natural boundaries . . . change” (EMPAT 1996, 3).

As the report also points out, for most families the land, besides being a source of traditional subsistence, provides the only source of collateral and its rising value in and near the main towns offers possibilities of lease and rental income. The FSM constitution has very little to say about land; thus authority over lands is very much a state responsibility. Some of the most intransigent problems in recent years have federal implications and are unlikely to be settled by unilateral action by one state. The possibility is rather remote that state action could deal effectively with situations such as local opposition to the presence of migrants from other parts of the Federated States in the Pohnpei State capital of Kolonia: the Pohnpei State Department of Lands has been likened to a “toothless dog which can bark its policies and regulations but cannot do much more than bark because the executive branch has not been able to enforce any of the policies” (*FSM News*, 1 January 1996). Given the considerable economic differences between the four states this has guaranteed a particularly complex situation.

There are several common factors regarding the land situation in the Federated States that are useful to record at the outset. During the trust territory period (1947–1986), the US Administration legislated to allow each district to “adjudicate ownership and boundaries, survey, map and register all public and private lands within the District territory” (EMPAT 1996, 6). Land commissions were established but received little support and were only able to concentrate on the partial registration of lands in the district centers. The ensuing backlog has caused a serious obstacle to the utilization of economically prospective parcels of land in the new federation. Apart from religious lands that were occupied before the constitution came into effect in 1978, no land may be owned by foreigners.

Contemporary land tenure issues are generally similar in each state and those included in the 1996 EMPAT report are listed in summary form here to give an idea of the challenge facing urban development planning in the Federated States of Micronesia.

### **Land Issues in Chuuk State**

The proceedings of a conference held in Chuuk in January 1993 under the sponsorship of the Catholic Committee on Justice and Development provides some important insights into the changing attitudes of Chuukese families toward land (Hezel 1994). As Hezel noted, traditionally, "The land ownership patterns and family groupings—the lineage especially—were shaped to fit one another" (1994, 1). Today, various influences, such as the introduction of the money economy, are weakening the dominant role of the lineage and have allowed fragmentation into household units or quasi-nuclear families. In traditional times land was acquired in several different ways with some of it considered as lineage land and some individually held; inheritance also differed according to whether the parcel was lineage land, land from father's lineage, or purchased land. Disputes are commonly brought to court in modern times and most are between members of the same family. The western court system of "winner takes all" is judged to exacerbate rather than diminish bad feelings between disputing parties, and the introduction of mediation rather than litigation is needed (Hezel 1994). Several issues listed in the EMPAT (1996) report are relevant to urbanization in the state:

#### *Land Registration*

The Chuuk State Land Commission continues to operate under the regulations established by the trust territory government in the 1970s in its task of determining and registering the ownership of some 15,000 land parcels, followed by surveying and mapping. Only half of these, amounting to 7,500 parcels in the main municipalities, had been registered between 1971 to 1995. A further 4,468 parcels are being adjudicated and determined; half of these await surveying and mapping. Several thousand others are in the pipeline. The registration process is an onerous one comprising a series of seven steps: (1) designating part of a municipal area; (2) sending out a registration team; (3) holding a preliminary inquiry; (4) holding the formal hearing; (5) determining ownership; (6) surveying and mapping boundaries; and (7) registering and issuing title. Undisputed, this process can take up to six months. Because of a lack of powers in the commis-

## URBAN DEVELOPMENT ISSUES

sion to ensure attendance at hearings, long delays are experienced, with some cases dating back fifteen years.

### *Training and Technology*

It is estimated that if adequate training were available and modern mapping and electronic storage of record data were provided, the land registration backlog in Chuuk could be removed in five years.

### *Public Education*

The existence at present of dual forms of land tenure—the traditional communal and the modern registered systems—is confusing in its mix of rules and regulations. The EMPAT report suggested that public education on the advantages of registration is required, together with revision of lineage ownership procedures that would “allow greater sensitivity to the individual family interests in land” (1996, 46).

### *Land Value Appraisal*

There is no commercial market in land nor do official appraisals of its value exist. A way must be found to assess land value objectively to assist private individuals and the government in leasing transactions.

### *Speculation*

The growth of the state capital at Weno is leading to land speculation by rich families in the lagoon municipalities but it is thought that the persistence of communal ownership and the limited economic prospects for the economy will constrain this trend.

In addition, there are concerns in the community that the rights of all in the lineage must be protected from the self-interest of some who profess to speak for the majority. Attempts have been made to minimize this problem by listing the names of all lineage members in the court and stating that land sales of common holdings are void without all their signatures (Hezel 1994). There is also evidence

of land abuse in Chuuk, such as the removal of beach sand leading to erosion, and destruction of mangroves. Paradoxically, the worst kind of abuse in some places may be the nonuse of the land where neglect allows the land condition to deteriorate (Hezel 1994).

### **Land Issues in Kosrae State**

Kosrae did not become a separate state in the trust territory administration until 1977 and until recently its small population has been able to cope adequately with a largely informal land tenure system based on traditional communal practices. There is little development that could be classified as urbanization in Kosrae but some land resources make it a likely target for modest urban growth in the future. The lack of pressure for modern forms of land development is coming to an end as a result of rapid increases in population and the realization that there is not much developable land apart from the limited coastal flats. The four municipalities are located around the coast of the island with the largest, Lelu, having a 1994 population of only 2,450, about one-third of the total island population. The State Land Commission, established in 1972, has determined two-thirds of parcel ownership on the island. The land commission together with the Development Review Commission, which administers the State Land Use Plan of 1994, comprise the main institutional bodies controlling the use of land. Specific land-related issues in Kosrae mentioned in the EMPAT (1996) report include:

#### *Land Registration*

This appears to have proceeded well to date but is restricted by the use of old manual procedures. Computerized operations are necessary to complete private land registration but seem unlikely in the face of declining budgets.

#### *Technical Training*

Old technology for mapping requires updating similar to that needed for computerized facilities.

## URBAN DEVELOPMENT ISSUES

### *Land Value Appraisal*

There is no competitive land market or standard of land value appraisal. In a small island any single investment of any size from external sources is likely to have a major impact on land values.

Kosrae will not be considered further here because of the absence of a distinctive urban center.

### **Land Issues in Pohnpei State**

Although not the most populous state, Pohnpei has the largest single land mass, is the most economically active, and has the best supply of land suitable for urban development and agricultural uses. Here the impact of the cash economy has been the greatest in the Federated States of Micronesia; it has led to the emergence of a small number of wealthy families who control extensive land resources. Most of these are also families of some significance in the Pohnpeian social order. The progressive introduction of foreign business interests in the Kolonia town area in particular is thought likely to continue this trend. The land situation in Pohnpei is different from that in the other states for a number of additional reasons, which are summarized here (EMPAT 1996):

As much as 60 percent of the main island were declared "public lands" during the German colonial period (1909–1914). Since the establishment of the American administration in 1947 efforts have been made to reduce these holdings by transfer of title or leasing to private owners.

German land reforms a century ago redistributed ownership rights previously held by the nobility and introduced private ownership and registration. This change came early compared to most other Pacific Island communities.

The patrilineal inheritance system imposed by the German land program of 1912–1914 was modified by the Japanese to a matrilineal system before reverting to both male and female inheritance under the Americans in the 1950s, resulting in a highly complex and confusing mixture of rules.

The state capital of Kolonia is the largest of the five municipalities on

## URBAN LAND POLICY

Pohnpei proper and is the biggest town in the federation. The proximity to Kolonia of the national capital at Palikir provides the preconditions for the growth of a major urban center in regional terms.

Pohnpei has greater responsibilities over land than the other states in the federation because of the extensive areas of public lands designated in colonial times. Considerable parcels of this land exist in and around the main town of Kolonia in Nett Municipality and have become the target of squatting by Pohnpeians from other parts of the main island, the outer islands, other FSM states, and some foreigners. According to the state constitution, only native Pohnpeians can own (have a certificate of title to) land. Similarly, Article 12, Section 1, of the Nett code states that such "natives" have first rights to settle on Nett land. "However if anyone would care to look around they will find that people from all over FSM are settling and homesteading on public lands inside Nett Municipality, even Filipinos. No action has ever been taken to ensure that the Nett natives get their constitutionally guaranteed right to settle first before letting others squat (*FSM News*, 1 January 1996).

It is difficult to see how such movement onto public land can be avoided in circumstances where wage employment is concentrated in the main town and where authorities are reluctant to evict their own citizens. One solution is to speed up the registration and transfer of this public land as soon as possible (EMPAT 1996) because there is evidence that a failure to do so has now become a political if somewhat exaggerated issue: "As a result of this mass squatting the native people of Nett are being displaced by an entire generation" (*FSM News*, 1 January 1996). There are also press reports of squatters "selling" land on which they have settled for as much as \$10,000 for 970 square meters. It should also be recognized, however, that the rights of FSM citizens to migrate and find work in the United States have provided a counterbalance, reducing local pressures on urban land in the past fifty years. Nonetheless it is clear that land issues are intensifying in and around Kolonia more than in most other parts of Micronesia.

Contemporary land tenure issues in Pohnpei are similar in their range to those in the other FSM states, but the greater pressures to develop in the urban areas makes their solution the more urgent. The following are emphasized in the



## URBAN DEVELOPMENT ISSUES

EMPAT (1996) report:

### *Land Registration*

Many boundary disputes have arisen because of faulty plot identification that occurred in the process of public land transfer during the American period. This has held up the transfer of other public lands (Japanese and Navy leaseholds) to private title. The extensive backlog of survey and mapping has delayed the supply of suitable land for commercial leasing and finance for home loans. This problem will get worse as urban pressures multiply. Among the obvious measures required is an increase in resources for the Department of Land, but the opposite is occurring with the downsizing in the 1997 budget.

### *Training*

There is a particular need for the professional training of staff dealing with land matters; their legal skills in particular are currently insufficient.

### *Speculation*

This is not yet considered to be a major problem, but bottlenecks in land supply and the reemergence of a landed class of wealthy families who are also active in government and commerce point to future difficulties.

At the moment therefore land issues are resolved by "traditional" means and there is little likelihood of this changing in the near future.

### **Land Issues in Yap State**

It is generally believed that Yap is characterized by the most traditional way of life in Micronesia. This is reflected in the persistence of customary land tenure that forms, together with the presence of some modern practices, a highly complex system said to be a hindrance to development. However, "in Yap land is power, prestige, station, caste ranking, responsibility, traditional authority" (EMPAT 1996, 131). Any changes in fundamental relationships with land would be likely to effect major changes in society itself, but such changes are likely to be

## URBAN LAND POLICY

few in number and slow to occur. The EMPAT report acknowledges this reality but suggests that it is not the tenure system itself that is the barrier to the development of more modern practices but the cumbersome ownership and land transfer *procedures* that inhibit supply. A number other characteristics of the Yap communal system are also identified in the report (EMPAT 1996):

The customary system has proved to be flexible and has absorbed changes forced on it by foreign colonial administrations.

Traditional authority is diminishing but still exerts strong influence on ownership, transfer, and use rights. Modern registration procedures are increasingly seen as offering most security and the fairest means of inheritance.

Ninety-nine percent of land is privately owned; the majority has not been mapped or registered and is held under customary tenure.

Most of the small amount of public land in the Colonia area was set aside by the American administration for public services, and a program for land registration was set up in 1970. It seems clear that attempts to expand modern developments, including the fisheries export business in the Colonia center in particular, have increased the necessity for a proper urban plan for the town. A development control plan was prepared for the Colonia business district in the late 1980s but is clearly inadequate. The First Economic and Social Summit held early in 1996 appears to recognize the need to reduce the reliance on the government for employment and to strengthen the private sector, but the underlying importance of land supply and its efficient administration in these objectives is not mentioned in major press reports (*Yap State Bulletin*, 16 February 1996). It is difficult to see how increasing the capacity of dock and harbor facilities and expanding power generation can take place without raising land values in Colonia and intensifying demands for coherent zoning and supply of land for commercial purposes. Any developments on the harbor peninsula will impact considerably on the small central area of the town, increasing the urgency for the government to approve physical land-use plans for the whole town.

Although there is no open evidence of squatting or homesteading in Colonia, there are pressures from outer islanders to find housing to enable them to attend

## URBAN DEVELOPMENT ISSUES

the hospital and pursue other necessary activities on Yap Island proper. At present demands for accommodation by several hundred outer islanders have been met by the allocation of land by the Catholic Mission at Madrich, close to the town center. This small coastal site is experiencing water supply difficulties and has only two or three toilets; length of residence at Madrich is limited. The government has purchased a new site in Tomil municipality at Deboch where self-built housing is permitted; the site presently accommodates some forty people.

### Kiribati

Other than a small amount of government land comprising airstrips, causeways, and water reserves and reclaimed areas, most land in Kiribati is privately owned. Land in the outer Line and Phoenix Islands is government owned, and that in Teraina and Tabuaeran is sold to settlers. Traditional tenure enables individuals to hold rights to land through their membership of particular social groups. In Kiribati land tenure is unusually complex, containing some elements of British law from colonial times, and present day practices differ from north to south. The British administration began land registration in 1892 and a succession of land commissioners, Arthur Grimble and Harry Maude among them, adjudicated in frequent disputes. By the 1960s, land tenure in the southern islands was characterized as "a composite system of legal and customary principles rooted in aboriginal Gilbertese custom as well as in English administrative customs" (Lundsgaarde 1974, 182). Much land ownership today is fragmented, and boundary disputes are still common. Most individuals hold full title to land and taro plots on at least one island but disputes over tenure have proliferated. Land has increasingly become a commercial commodity in Kiribati, especially in the urbanized part of South Tarawa.

In some areas absentee land ownership is a problem, and in others the fragmentation of holdings into tiny allotments following subdivision hampers further development. Yet fragmentation can provide a choice of residential sites and, possibly, both "high" and "low" land area holdings with varying productivity. For almost thirty years administrations have attempted to encourage land

## URBAN LAND POLICY

consolidation but without much success. Attempts at major reform, including that of complete registration, have been tried but not completed. A key challenge is to reconcile the complex tenure system with a legal land management process that ensures orderly supply of land for development. Responsibility here is unclear; the various agencies involved include the Ministry of Home Affairs and Rural Development (MHARD), the Central Land Planning Board (CLPB), the Betio Local Land Planning Board (BLLPB), and local government. The land planning boards have no budget resources for implementation purposes and must rely on other agencies. Indeed, institutional problems in land management reflect the uncoordinated nature of government administration of urbanization in Kiribati (KM HARD 1995), though some progress is now being made in the institutional strengthening of the Lands and Survey Division (Jones 1996), which should improve the management of urban land.

### Urban Land

The *Urban Management Plan for South Tarawa* (KM HARD 1995) gives a clear picture of the land problems confronting urbanization. South Tarawa is only 15.76 square kilometers in area, and forecasts of demand for building land to the year 2010 are of the order of 2,000 plots. Increasing demand from the growing population and the prevalence of informal land transfer procedures have led both to pressures for more secure and individualized tenure arrangements and to squatting. The government is reluctant to move against squatters because of the importance of traditional rights, even where squatting is on public land such as water reserves. The government is also severely hampered in preparing land-use plans for its own public land (usually leased from customary landowners) because of the veto rights of landowners over whether development should proceed. Only the main urban nuclei of Betio, Bairiki, Nanikai, and Bikenibeu, which make up South Tarawa and contain 36 percent of the national population, have even this restricted form of planning, with the rest of the country awaiting "designation."

Land concerns are closely linked with several other important areas of public policy including the control of population movements to South Tarawa from outer islands, and the provision of housing and land for public purposes. Because

## URBAN DEVELOPMENT ISSUES

of high leasing costs of private land and the unavailability of land at some strategic locations, reclamation is a preferred strategy to provide additional government lands in several island countries. In Kiribati estimates were made a decade ago that 6.6 square kilometers could be reclaimed at a cost of A\$82.6 million (UNCHS and UNDP 1994), a sum well in excess of the resources of its small economy. In any event, more recent predictions about the impact of the greenhouse effect on sea-level rise have forced a reassessment of some reclamation intentions. There are, however, proposals for reclamations of land at Nanikai, and other land has been reclaimed in the urban area in the past.

Four key land issues were identified in the South Tarawa urban management plan (KMHARD 1995, 10) after a series of public workshops and reports (see KMHARD 1993; Jones 1994; 1995): first, land is a scarce resource requiring good management and production of more resources (via subdivisions and appropriate reclamation) in private and public sector interests; second, land supply has been neglected by the government with the loss of various financial, economic, and social returns; third, the central dilemma is to choose whether or not efficient urban development and growth is to be achieved. If so, changes to customary land procedures must be made; and fourth, the powers of the landowner with respect to government-leased lands require review, and the planning process in general needs to be changed. This will result in more active involvement by the government in land-use planning.

Five land planning objectives are also contained in the South Tarawa plan, providing a good indication where government priorities should lie: (1) an efficient, productive, and commercially oriented land production process containing provision for environmental assessment is necessary; (2) the government should transfer to landowners lands not required for public purposes; (3) the government should investigate the acquisition of land for future urban needs such as roads and water reserves; (4) after considering the socioeconomic implications, the government should consider dropping the landowner consent needed before development can take place on government-leased lands; and (5) all lands in South Tarawa and specific areas of North Tarawa should be designated for planning purposes to enable orderly future development of the atoll.

**Marshall Islands**

Social position in the Marshall Islands is derived from present and future land ownership rights. According to a recent United Nations report, "the cultural and societal importance an individual attains from ownership of land is valued higher than the economic returns that may be derived" (UNCHS and UNDP 1994, 153). That this is given as the main reason for the low productivity of both urban and rural lands in the Marshall Islands is not entirely surprising. "Individual" land ownership in a customary system actually includes several classes of communal ownership by lineage members (*bwij*), making the direct realization of individual economic gains more problematic than in western "freehold" tenure systems. Four classes of traditional interests in land are identified by Harding (1992, 10) as *Iroijlaplap* (paramount chief holding the primary rights), *Iroijedrik* (lesser chief possessing senior rights), *Alab* (head of the matrilineage serving as land manager and spokesperson), and *Dri Jerbal* (worker having use rights). The basic land holding is the *weto*, a strip that runs from lagoon to ocean across the island. Traditionally most land was inherited matrilineally but the paramount chiefs can dispose of it as gifts and, increasingly, it can be bought and sold.

During the colonial period government, foreign-owned, and native lands were surveyed and registered but all documentary evidence was destroyed in the Second World War (UNCHS and UNDP 1994). The present constitution has reestablished the central role of traditional practice and includes provision for the Council of *Iroij* to be consulted by the government on matters relating to customary law and tenure practice. Modern legislation limits land ownership to Marshallese and, under the Public Lands and Resources Act, identifies as public lands those formerly held by the Japanese colonial government. The Land Acquisition Act introduced in 1986 allows the government to acquire land for public purposes and gives it the power to override traditional rights, but this power is rarely if ever used (Harding 1992; UNCHS and UNDP 1994). The view of outside investors toward the Marshallese land tenure is predictably negative: "There are institutional barriers such as communal land holding, whose somewhat peculiar extensions include the multiple rights system under which several parties can claim and hold in dispute the same parcel of land. Provision for long-term

leases of up to 50 years has been a welcome change, but the land tenure system as a whole remains an impediment toward establishing a market system without which the productive base of the economy cannot be expanded in the future" (Bank of Hawaii 1996, 8).

### **Urban Land**

Throughout Micronesia and the independent Pacific the most intense conflicts over land use and ownership are in urban areas, where a requirement for modern government controls of various kinds is held in check by the continued existence of parcels of customary land inside or on the boundaries of municipal areas. In Majuro the passing of the Lands Acquisition Act in 1986 has not yet led to the overriding of traditional rights in favor of badly needed public services, limiting the effectiveness of planning measures in the face of rapid urban growth (UNCHS and UNDP 1994). Landowners have long been accustomed to exercising complete control over land use and access and have usually opposed regulations concerning solid waste and sewage disposal, earth moving, and zoning that might restrict them in any way. (This has affected attempts to develop appropriate garbage collection and disposal policies, for example.) Majuro has no public land-use planning scheme, no provisions for recreational areas or parks, and hence no public open spaces. Questions about land ownership and use complicate private investment projects, especially foreign joint ventures, as well as the provision of public utilities. Because land tenure is closely tied to traditional leadership and the traditional leader of Majuro has considerable social and political importance, the prospects for introducing public controls over land use are exceptionally poor.

The land tenure situation is somewhat different on Ebeye since the major landowners gave the Kwajalein Atoll Development Authority leasehold over more than 75 percent of the island in 1989. This has enabled the atoll development authority to develop plans to decentralize the population, establish commercial zones, expand recreational facilities, and build the island's first high school. Before 1989 there were no land-use plans, all development was piecemeal, and integrated development was impossible. This encouraging situation is

## URBAN LAND POLICY

not universal, however; recent reports about the atoll development authority's Ebeye-Ningi corridor development suggest that a lack of control over Ningi Island could lead to commercial expansion there resulting in conditions similar to those found in Majuro (UNCHS and UNDP 1994). There have also been disputes on Ebeye among the eighty traditional landowners over the distribution of lease payments for Kwajalein. Such distributions of rental payments, being based on goodwill and custom, are likely to continue to be a source of dispute.

The small Division of Lands and Surveys has completed the survey of Majuro and Ebeye including the marking and registering of boundaries and granting of title deeds to owners but is yet to undertake this task in the rest of Kwajalein and the outer islands. The UN mission of 1994 was critical of its poor resources and inability to prepare "strategic plans, land-use and development control plans and land analysis for national, regional and local development policies" (UNCHS and UNDP 1994, 158). This situation will be difficult to change.

### Palau

"Clear property rights are a fundamental requirement for a modern capitalist economy. If Palau seeks to pursue a path toward such an economy, issues related to land tenure and effective land-use planning will need to be resolved as expeditiously as possible" (SAGRIC International 1996, 7-1).

There are very few sources of up-to-date information about land tenure and development issues in Palau and in the capital of Koror in particular. The new draft national master development plan (SAGRIC International 1996) that was commissioned in 1993 contains the most comprehensive review of present conditions but had still not been approved by Parliament in mid-1996. (The section on land-use planning contained in the master plan is drawn on extensively in this paper though it is recognized that it may not be adopted by the government in its present form.) Since independence Palau has become the target of numerous investment proposals from the north Asian countries of Korea, Japan, and Taiwan in particular, and questions about land are an integral component of most of them. In contrast to the other three independent Micronesian countries, tourism in Palau is seen as a major platform for national growth and economic



## URBAN DEVELOPMENT ISSUES

development. The master plan states unambiguously that present uncertainties over property rights are a serious barrier to investment in all sectors of the economy, including indigenous Palauan investment. Among the negative outcomes of the uncertainty over title and rights to land are said to be higher levels of environmental degradation; difficulties and higher costs in acquiring land for business operations; undesirable concentration of land approvals in the hands of a small number of influential Palauans; increased scope for inappropriate use of resources; attraction of less desirable foreign business interests; and motivation of Palauans to seek offshore employment and business opportunities.

In contrast, the master plan argues that an increased certainty of land ownership under law will act to disperse influence and contribute to orderly private growth. The plan stresses the benefits of land reform as fundamental to Palauan economic development and gives a long list of reasons why clear land title and the establishment of a formal land market is necessary. Among those reasons are: land is a dominant form of individual wealth in market economies; it provides most credit security; it provides an incentive to accumulate wealth; it provides security over future consumption; it encourages respect for other peoples' property rights; and it binds owners into a social contract with the government in a way that serves communal needs (SAGRIC International 1996, 7-2). Of course, there will be social effects flowing from land reform, among them the erosion of village culture and the eventual emergence of landlessness.

The master plan does not specifically acknowledge the possible "positive" effect of uncertainties over title and rights to land in slowing down modern sector investment and development at a critical period of the country's history. A slower pace of development enforced by delays of this kind could, it is thought, provide more time to identify local priorities and the means of effectively controlling externally induced development. Palau's Compact of Free Association with the US government was agreed much later than those of other entities of the former trust territory, resulting in a financial support package that will be in existence well into the second decade of the twenty-first century. This safety net, while being fully committed in many ways, does at least provide an opportunity to accept a more measured pace of economic development in a newly independent

country than would otherwise be the case. Of special importance here is the ability to resist undesirable forms of foreign investment that might be irreversible and that would not be accepted in later years when local institutions have adapted to their independent status. Large-scale alienation of village land for tourism purposes has already occurred extensively in Guam and the Northern Marianas and would, it is certain, follow a similar path in Palau if allowed to do so.

### **The Land Tenure Situation**

As in the Federated States of Micronesia, most land in Palau (70 percent) is “public” land, and much of it is in the process of being transferred back to private ownership, formerly by the lands commission and now by the Palau Public Lands Authority. After transfer, the other public land will be held by the sixteen state public land authorities. Land registration has been underway for some time but is likely to take another ten years to complete because of delays and a lack of resources in the land claims office. Only Palauan citizens and corporations wholly owned by Palauans can gain title to land but foreigners can be allowed leases of up to fifty years. No taxes are levied on land under the constitution, and compulsory purchase, though possible, has only been used once in acquiring land for the international airport (SAGRIC International 1996).

The government has set up a land information system (PALARIS) but slowness in registration and transfer means that it will be the year 2005 or so before it will have the coverage necessary to provide a basis for infrastructure planning and other forms of development. The shortage of developable land in Koror is artificial, based on a lack of availability rather than an actual physical shortage (Mitsungi Solong, Bureau of Community Services, personal communication, 1996). Perhaps the best indicator of Palauan opinions about the land situation is to be found in the political process surrounding the 1996 primary elections for president of the republic. The full-page election platform press advertisement for one candidate (a high chief), published in Guam, identified land (*delad'l chutem*) as one of four basic issues facing Palau; the others were cultural heritage (*uldelid'l Belau*), environment (*lmuk era klengar*), and government reorganization [through a] Constitutional Convention:

## URBAN DEVELOPMENT ISSUES

All lands in Palau must be returned to true landowners in the states, hamlets, clans, lineage, and individuals in the next four years through improved and facilitated surveying, land hearings, and title certification. The national government must take immediate steps:

- 1) to provide the council of chiefs in each hamlet and state a role in determining title to lands located within its jurisdiction.
- 2) to set up a system [through] which the national government can request and obtain lands for its projects and programs in the hamlets.
- 3) to stop existing lawsuits or efforts by the national government, Palau Public Lands Authority or any national entity to invalidate or interfere with the return of public lands to the states through deeds in the 1980s. (*Pacific Daily News*, 19 June 1996)

Clearly the tasks of obtaining public ownership of any significant areas of land and regulating the use of traditionally owned land are complex and difficult.

### Addressing the Priorities

The man is not chief, the land is chief.

Yapese saying, quoted in Hezel 1985, 1.

There are some disadvantages in attempting to separate land issues and policy responses from other aspects of development in Micronesia, as we have done here. One problem is the glossing over of major differences in culture and history reflected in the creation of four nation states; another is the isolation of land problems, particularly those concerning tenure, from their social and political context. As in other regions of the Pacific, these small countries are quite capable of identifying priorities, but this is not the same as agreeing to accept changes that will inevitably result in a rapid shift in power and influence from the traditional to the modern. At the heart of the dilemma is the struggle to control the pace of development and change, and island politicians quite rightly see this being concentrated in land management concerns in the urban areas. Several general and specific conclusions can be drawn from this brief appraisal.

## URBAN LAND POLICY

### *Land Issues as an Economic Problem*

It is too simplistic to accept the popular assumption made by most foreign business interests and international agencies that traditional land practices are an impediment to development. The important question, as always, is *What kind* of development do they impede? The citizens of all the Micronesian countries apart from Kiribati are in the fortunate position of being able to maintain ready access to education and employment in the United States and this, together with high levels of foreign aid, has removed the need to immediately adopt the preconditions for a modern economy to ensure survival. While it is true that this access may be more apparent than real, they do have time to consider the trade-offs between a slow pace of change and lower-than-otherwise living standards on one hand, and quite rapid movement to an individualized tenure system on the other. In Kiribati the very few options for modern sector development also lead to a questioning of how urgent the land reform agenda really is.

### *Culture and Property Rights*

One of the most persuasive arguments used in favor of the adoption of formalized private property rights is that this will act to "ameliorate tendencies of individuals to seek private gain through public office or leadership status" (SAGRIC International 1996, 3-3). While it is true that individual ownership characterizes wealthy countries the world over, the counterargument often used in the Pacific is that it will also facilitate the emergence of a landless class. It is also questionable whether private property rights will do anything to lessen corruption by wealthy individuals in Micronesia who are supported by outside development interests. Consideration might be given to formalizing individual rights in the municipal areas, initially, in recognition that this is where the pressures for change are greatest and where the demands for land and public services are most acute.

### *Land Reform in the Urban Areas*

Throughout the region it is in the larger municipalities where the unavoidable

and negative effects of poor land-use planning are most apparent. Here, a strong case can be made for the adoption of reform measures to allow (and make use of) public acquisition of strategic land supplies for essential infrastructure and other important uses. Micronesians find it difficult to accept government authority over their private land because it is viewed as a family possession. The three ways commonly used by governments to intervene in the use and ownership of private land—eminent domain, property taxes, and zoning laws—are all highly unpopular (Hezel 1994). However, sufficient political will may be secured in the urban parts of Micronesia to achieve changes that would not be acceptable in rural and outer island environments. The states of the former trust territory are fortunate that their exposure to land registration and alienation over a long colonial period may allow reforms to achieve, in the relatively short term, the twin aims of better urban living conditions and a more vigorous urban economy.

*Practicalities of Urban Land Reform*

There appear to be at least two key areas where progress can be made. The first is in gaining public acceptance for the limited use of eminent domain powers to acquire land for essential community purposes. This will never be an easy objective in Micronesia, although the legislation is already in place; an educational process is essential to make it work. Without community lands, public health and the future development of Koror, Colonia, Weno, Kolonia, Majuro, and South Tarawa in particular will be compromised. The second area is prioritizing and providing adequate resources for the work of land registration offices in all four countries to ensure the present extensive backlog in survey and granting of title is cleared by the end of the decade. There is a chance that limited objectives of this kind can be met and will provide the catalyst to identifying other reforms. The computerization of land records and establishment of a land information system, as in Palau, is one area likely to win international support.

Urban land is scarce in Micronesia largely because governments are unwilling to exercise their legal rights to acquire additional customary or

individually held land for urban purposes. As a result, there is severe pressure on the small amounts of public land, almost no opportunity to redevelop existing residential areas to higher densities, pressure to reclaim marine and lagoon areas for various public uses, and a lack of open space. Effective urban management and planning requires an ability to control land use for priority public purposes (see chapter 4). The hard reality in most of Micronesia is not so much a failure to accept this objective but a lack of agreement as to the most appropriate means of achieving it. Each state requires an individual approach and concentration on priorities.

A central difficulty in the debate about urban futures in the South Pacific is the universal problem of addressing specific urban strategies of one kind or another when basic (and missing) elements of the discourse cover much more fundamental issues. Land is one such example because most of the standard solutions to questions of urban expansion and the provision of appropriate amenities and services presuppose considerable public control over land development. The fact that this supposition does not apply (in varying degrees) across the region prevents a realistic assessment of many specific recommendations. In various places governments are actively pursuing the possibilities of land reclamation, not so much because there is an urban land shortage of a physical kind (though this is undoubtedly a factor in some places) but because the shortage is artificial. To rectify the problem means exercising government powers that are controversial and threaten the basis of traditional society (Connell and Lea 1995, 91). Thus a way must be found to involve the customary leaders of urban communities in municipal management. No innovative attempts to introduce traditional authority into the urban debate have yet been undertaken, though the lengthy period of public consultation arranged for the discussion of the Pohnpei master land-use zoning plan could facilitate this. It is trite but true to conclude that the resolution of urban land problems will be difficult and time consuming.

## Housing

Dramatic changes have occurred in the last 40 years. The first and most obvious of these is the great increase in the number of people living on the estate. A land parcel in U that held 11 people back in 1950 now supports 25. Residences, too, have proliferated today... The consequences of increased access to money are evident everywhere. Many of the houses today are of modern construction and built of cement. Often outside workers are hired to build them, so fewer demands for labour need be made on the patrilineal group.

Seberiano Barnabas and Francis X Hezel,  
"The Changing Pohnpeian Family"

THE TREATMENT OF HOUSING as a development issue usually involves the artificial separation of concerns about the physical provision and maintenance of shelter from numerous other associated aspects of the housing process. Many years ago this dichotomy was cleverly represented by John Turner and Robert Fichter (1972) in describing housing both as a *noun* (a product) and as a *verb* (a process). In many instances it is the nonmaterial aspects of shelter that appear as the crucial determinants of the housing situation. The division is seen today in Micronesia in the range and extent of policy statements made available by national and state governments. It is clear that many causal factors are at work influencing not only demands for urban housing but also the institutional capacity to respond adequately to the shortcomings now evident in all the regional capitals. One such factor is the changing nature of the extended Micronesian family, examined by Barnabas and Hezel in their review of differences that have emerged in Pohnpei since 1950 (1994). Here, a seemingly irreversible movement toward the nucleation of the household unit, together with other demographic factors, has led to demands for housing that cannot be explained by crude population growth alone. However elsewhere, particularly in South Tarawa, the

## HOUSING

preference for continuing to live in extended households evident and quite striking (Atoll Research Programme 1996).

It is also obvious that land issues, as we have seen, can have a material affect on the ability of urban residents to house themselves and must be carefully considered in the formulation of housing policy. The ability of government agencies to undo the distortions of decades of colonial intervention and simultaneously administer complex land law in a fair and impartial manner is problematic in Micronesia. The results of this dilemma, seen in their most extreme form in the urban areas, have become the subject of public complaint: "Some people get ousted from public lands while others (with political or traditional roles) are not touched. People who work through the proper channels to obtain lease for public lots seem never to get the lots because there are already people who squatted on the same lots and who will kill to protect their 'squatting rights' (if there is such a thing)" (*FSM-JTPA News*, 4 June 1995).

This chapter examines various dimensions of housing in Micronesia, both as a process and a product, before addressing current issues and policies in each of the four countries in turn. The information considered is necessarily illustrative and weighted toward those countries and urban areas where recent data are available.

A number of features typify living conditions in the Micronesian towns and distinguish them from human settlements in many other parts of the world:

Because land is at a premium in most urban centers—particularly in the large atoll towns of Majuro, Ebeye, and South Tarawa—the ratio of people to dwellings is high, putting considerable pressure on infrastructure and services.

The low net increase in the urban population in Micronesia results in relatively low housing demand, but natural increase has led to overcrowding and to several illegal settlements.

Land and housing are integral components of traditional Micronesian lifestyles; dwellings are occupied by extended families comprising several generations.

There is very little formal housing provision either by the public or private



## URBAN DEVELOPMENT ISSUES

sector; most dwellings are self-built via direct paid labor.

Housing finance is not well developed, with limited opportunities for borrowing by low-income earners.

Because housing is often communally financed by extended families rather than by "modern" institutions, many urban houses take years to complete.

There are generally no requirements to obtain "planning permission," and building permits are usually only required for nontraditional structures.

However, since much of the region is cyclone prone, special construction standards are required to strengthen housing against strong winds.

(It should be noted that with changes in family life, the availability of urban land, and prospects of urban employment, these characteristics are not static.)

### **The Urban Housing Process in Micronesia**

The urban housing process in Micronesia is a collective term covering the ways in which residents cope with the problems of finding accommodation through both the formal and the informal means open to them. There is very little information presently available to describe the processes involved or to assist in analyzing the effects of current housing policy measures. Indeed, only one of the four countries, Kiribati, has completed an up-to-date housing study that reveals enough of the facts for conclusions to be drawn with any confidence (KHC 1996). An in-depth appraisal of the housing sector in Federated States of Micronesia was completed as part of a wider study of national development in 1989–90 and contains a range of administrative and policy recommendations that have not been adopted by the government (Chollerton 1990). Some quantitative data have also been collected via the national censuses but relate mainly to physical aspects of housing. Other than the Kiribati study, the appraisal of underlying factors and policy responses is thus limited to small entries in national plan documents, the unpublished FSM study, a note in the new Palau national master development plan, policy measures contained in a state land-use and zoning plan (Pohnpei), and various recommendations contained in the recent UN mission on urbanization to the Marshall Islands and Kiribati (UNCHS and UNDP 1994). The evidence these provide about the origins and incidence of urban housing

## HOUSING

problems or the range of possible policy responses for governments in the region is not sufficient to use with any confidence in dealing with urbanization. By and large the neglect of housing issues is the legacy of a widespread perception that housing provision is primarily a private activity undertaken by households.

The justification for undertaking the special housing study in Kiribati in 1995 was seen in the steadily deteriorating situation in South Tarawa. There the doubling of the urban population to 50,000 in the next twenty years will greatly exacerbate a list of well-identified problems: a lack of access to housing and land, as well as to clean water, sanitation, and electric power; a proliferation of squatting and of informal housing using poor quality salvaged materials; disorganized, unplanned building; high numbers of occupants per dwelling contributing to a lack of privacy, nuisances of noise and smells, and loss of visual amenity (KHC 1996, vii).

Importantly, the Kiribati urban housing study was able to go much further than presenting a list of deficiencies. It also sought to raise government and public awareness, identify key needs and demands, provide the government with a basis in policy formulation, identify possibilities for institutional cooperation, and come up with a program of priorities. It is evident, however, that the causal factors underlying the developing housing crisis in South Tarawa listed here are not all capable of remedial treatment through the response of *housing* policies as such. This is a universal difficulty in housing policy formulation, which recognizes that the poor condition of urban shelter is but a reflection of a broader set of social and economic issues. The message arising out of the work of Turner (1976) and others in the 1970s emphasized the need for governments to concentrate on some of these associated policy areas if any real progress was to be made on the housing front. Circumstances vary greatly from country to country but when dealing with housing the twin issues of overcoming difficulties in urban land management and creating more private sector employment will both demand the particular attention of Micronesian governments. Over the past two decades the developing world has seen a steady withdrawal of public agencies from *direct* housing provision toward *facilitating measures*, such as improving access to serviced land. With this change has come a greater acceptance of the need for

## URBAN DEVELOPMENT ISSUES

government intervention in land-use zoning and infrastructure provision.

The housing situation is clearly more acute in the crowded atoll states of Micronesia (primarily Kiribati and the Marshall Islands, but also parts of Chuuk and Yap States) than in the high islands of Pohnpei, Kosrae, and Palau, and the differing nature of the housing process reflects this. All governments are well aware, however, of the need to balance the impact of national population growth spatially through encouraging developments in the outer island groups. Success here may slow, if not limit, pressures on state and national capitals, providing a little more time to resolve aspects of urban policy that presently seem intractable. Better housing is a regional priority, but a perverse and likely outcome of success in overcoming poor urban living conditions in the capitals is further depopulation of the rural areas and outer islands. Even good atoll housing, however, will not stop the outmigration of population from depressed parts of the region such as Chuuk State to other parts of the Federated States of Micronesia and further afield.

The picture is not entirely bleak: the wide distribution of Japanese settlement in much of the former trust territory between the world wars is evidence that parts of the region can accommodate much higher rural densities than at present. This would allow the emergence of small towns in Palau (on the island of Babeldaob), Pohnpei, and even Kosrae, if economic circumstances permit. Similar opportunities do not exist in Kiribati, the Marshall Islands, and other parts of Federated States of Micronesia, where urban housing improvement will be closely linked to the pressures of population growth and levels of national out-migration. It is already evident that migration in parts of the region is not limited to rural-urban movements but also includes considerable inward pressure from foreign workers. In Palau, for example, 4,000-plus foreign workers dominate the private sector and comprise a large proportion of the urban workforce. In spite of their obvious importance to the economy, and to the urban population of Koror, little or nothing appears to be known about the housing circumstances of these primarily Filipino migrants; their needs fall outside the existing charter of the Palau Housing Authority.

It is clearly of great importance in these circumstances to gain a good

## HOUSING

understanding of the housing process in the region in its key social, economic, behavioral, and financial dimensions through focused housing studies of the kind pioneered in Kiribati. Without them, it is difficult to see how governments will be able to respond with appropriate policies. Elsewhere in the South Pacific major studies have been conducted in countries such as Tuvalu (Clarke 1993) and Western Samoa (EDU International in association with GHK/MRM International 1992) and are seen as a key part of the ongoing task of keeping abreast of changing demands and worsening urban living conditions.

### **Housing Conditions in Micronesia**

Information about the physical dimensions of Micronesian housing as a product is described here primarily through an examination of national conditions portrayed in the 1994 FSM census of population and housing (FSMOPS 1996) and the urban conditions found in the 1995 South Tarawa housing study (KHC 1996). It is obviously not possible in this paper to provide a full picture of urban housing in the region since detailed and up-to-date information is available only for South Tarawa. Housing characteristics in the Federated States of Micronesia are covered in the 1994 census under the subheadings of general conditions, structural characteristics, utilities, and equipment. Unfortunately, no attempt is made in the census report to examine conditions by municipality, and it is recognized in the case of the largest state capital (Kolonias, Pohnpei) that the urban area extends across three municipal boundaries. Although aggregate figures are useful in portraying overall conditions and changes that have occurred since the time of the 1980 census, they reveal little about the particular characteristics of the main urban areas.

### *Selected General Housing Characteristics in the Federated States of Micronesia*

Table 8 shows that the unbalanced distribution of housing units by state closely follows a similar patterning of the national population (table 2), with Chuuk and Pohnpei States having the most units in both owner-occupied and rental categories. Although total numbers are small, Pohnpei had most cash rental units, demonstrating its economic domination of the country. Most of the rental units

# URBAN DEVELOPMENT ISSUES

Table 8. Housing Units in the Federated States of Micronesia, 1994

	Yap		Chuuk		Pohnpei		Kosrae		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<i>Total Occupied</i>										
Total units	1,980	100.0	7,581	100.0	6,030	100.0	1,018	100.0	16,609	100.0
Total occupied	1,925	97.2	7,043	92.9	5,298	87.9	964	94.7	15,230	91.7
<i>How Occupied</i>										
Owner occupied	1,442	74.9	5,301	75.3	4,035	76.2	865	89.7	11,643	76.4
Cash rental	29	1.5	57	0.8	307	5.8	14	1.5	407	2.7
Noncash rental	412	21.4	1,494	21.2	835	15.8	54	5.6	2,795	18.4
Other	42	2.2	191	2.7	121	2.3	31	3.2	385	2.5

Source: FSMOPS 1996, Table 13.2.

could also be classified as urban because they are located in Kolonia and Palikir. The fact that the majority of rental housing in each state is classified as “noncash” is a good demonstration of the continuing importance of the extended family.

## Structural Characteristics

The 1994 FSM census reveals that detached dwellings make up almost 90 per cent of total housing and their size has increased by an average of two rooms per unit since 1980. This change demonstrates increasing wealth over the period and the introduction of federal and local housing loan packages. A further indicator is the change taking place in roofing materials over the same period. Although metal continues to be the most popular roof cladding, poured concrete has increased from 2 to over 14 percent and the use of thatch has experienced a commensurate decline. This makes good sense in terms of durability in a tropical climate but also indicates greater dependency on imported building materials and further pressure on a negative trade balance. Yap remains the only state where

## HOUSING

local materials like wood and thatch still comprise a major element (23 percent) of roofing for local housing. Outside walls are generally built of concrete but exhibit regional variations; for instance, metal is preferred in Yap but is scarcely used for walls in Kosrae.

### *Utilities and Equipment*

The increase in dwellings using electricity, from 28 percent in 1980 to 50 percent by 1994, is one of the clearest indicators of rising standards of living. There are strong regional variations here; Chuuk has the lowest proportion of houses with power connections (35 percent) and Kosrae the highest (over 90 percent). The availability of piped water supply and water-borne sewerage are two good indicators of the presence of disease, as was demonstrated in 1982 when sewage pollution in Chuuk led directly to an outbreak of cholera (Connell 1983a). The proportion of dwellings in Weno with good water and a flush toilet at that time was only 6 percent. The increase in piped water connections in the Federated States of Micronesia has been dramatic since 1980, rising from 6 to 44 percent. Three-quarters of houses in Chuuk, however, still did not possess piped water in 1994, suggesting major improvements are necessary.

Although only 10 percent of homes in the Federated States are connected to public sewers, this represents a doubling since 1980 and is a much higher proportion than is found in most other countries in the independent Pacific (Connell and Lea 1993; 1995). However, three-fourths of all FSM houses do not have any recognized form of disposal by sewer, septic tank, or cesspool. The evidence regarding the presence of toilet facilities is mixed, with major increases in the number of houses with flush toilets (over 200 percent) but also a 100 percent increase in those with no toilets at all—indicating the rise in informal housing. Where cooking is done inside it is mainly on kerosene stoves; about a quarter of households use electricity. Interestingly, almost 60 percent of cooking is done outside the housing unit. Open fires are used in all states except Pohnpei where outside wood stoves are preferred. This also indicates the continuing importance of communal living arrangements in compounds where several households may share the same cooking arrangements.

### **Urban Housing Conditions in South Tarawa**

The lack of specially designed housing studies in Micronesia and the dearth of information on the urban situation has increased the importance of the Kiribati Housing Corporation (KHC 1996) report on South Tarawa. Here, data from a main survey, a transect survey, and two workshops are combined to give a good picture of both human and physical conditions. A snapshot of key findings, shown in table 9, is based on a summary in the report itself.

The Kiribati study also uses an accessible and effective means of describing current conditions in South Tarawa by highlighting answers to a series of questions about household composition and housing condition (these issues and others are also discussed exhaustively in Atoll Research Programme 1996). Some are listed here in order to illustrate the difficult situation that has developed in the atoll states.

#### *Household Composition*

In answer to the question *Should it be surprising that nearly 23 percent of household heads were female?* the report reveals that this proportion is probably due to the low life expectancy of males (58 years) compared to females (63 years), and to the absence of seamen at work on foreign ships. The answer to the question, *Why do 25 percent of people living with relatives or friends have a desire to live independently?* suggests that this figure is a crude indicator of the number of hidden family units present in the crowded urban conditions of South Tarawa. Overcrowding is a culturally specific term and, in spite of the prevalence of very large households by western standards, the majority of household heads did not consider their houses to be overcrowded.

#### *Housing Conditions*

In answer to the question, *How popular are structures next to the main house?* the report shows that 39 percent have a *kiakia* (traditional house with raised floor) located next to the main dwelling. This indicates a requirement for more space for the extended family and possibly the persistence of some traditional

---

## HOUSING

---

Table 9. Housing Indicators in South Tarawa

---

### HOUSEHOLD DATA

*Population density:* Large households with high numbers of persons per dwelling

*Tenure:* Private (57 percent) and public rental (47 percent)

*Level of poverty:* One-fourth of households unable to afford improvement or repairs

*Affordability:* Nearly half of households have no savings and 16 percent no income; public service wages is main income source for 67 percent; 70 percent earn less than \$5,000 a year

*Choice:* One-fourth of houses included additional households that wished to live independently

*Community involvement:* More than one-third wish to employ self-built solutions to housing problems; the majority support the idea of a general housing improvement plan

### HOUSING CONDITIONS

Trend is toward use of nontraditional building materials; 38 percent of houses are of traditional construction

Low level of housing amenities with one-third of households using the beach as a toilet and over half without piped water

Maintenance required by 98 percent of houses

### MAIN HOUSING PROBLEMS

Shortage of houses

Overcrowding, with average household size of 8 persons

Lack of money to build

Shortage of land

Lack of materials

Lack of clean water and sanitation

Lack of a housing policy

---

*Source:* After KHC 1996, Table 2.1.

---

values in the urban setting. In answer to the allied question, *Are houses of traditional construction on the decline?* the results show that the traditional house now accounts for only 38 percent of the total by construction type and is declining in popularity. Nonetheless this is a high proportion for an urban area, even if “the traditional houses remain part of I-Kiribati lifestyle” (Atoll Research



Programme 1996, 12). Farming activity, necessary to provide the materials required, is also declining in South Tarawa. Not surprisingly, the level of housing amenities is directly related to income but the main facilities of toilet, bathroom, and kitchen are usually located outside the dwelling. Sanitary conditions are primitive for people on lower incomes who must rely on broken communal systems, outside toilet blocks, the beach, or the bush.

### *Housing Tenure and Finance*

As might be expected in a newly urbanizing situation, the majority of households (59 percent) do not have a housing loan, and a high proportion own their land (46 percent). Tenure arrangements still exhibit many of the informal characteristics found in traditional societies: 14 percent have a lease, 17 percent have a verbal agreement (*te katekateka*), and 23 percent do not know who the land-owners are. As many as 42 percent did not know how much savings they had (if any) or whether they could afford necessary maintenance. Self-help solutions were found to be popular: 38 percent of respondents interested in forming groups to build or improve houses; a further 37 percent would build with friends and relatives; and 20 percent thought they could generate income by self-building. Among the public rental tenants, half (50 percent) spend between 6 and 10 percent of their fortnightly salary on rent, with 41 percent only contributing up to 5 percent. These figures suggest that housing costs are very low in comparison to the more economically advanced countries in the region.

The Kiribati housing study also used transect surveys to gain data about shelter conditions in the Betio Labour Lines and Takoronga squatter community, Bairiki Village, and the Bikenibeu Labour Lines. Here, overcrowded and unsanitary conditions were revealed along with high levels of unemployment. Rubbish pollution is of concern, as is the high proportion of residents who do not have access to government water supplies because of an inability to afford installation and usage costs. Follow-up workshops were held with public housing tenants who expressed great dissatisfaction with the poor condition of the older houses, which were considered good for little else but demolition. Complaints were leveled at the Kiribati Housing Corporation (KHC) that tenant consultation

## HOUSING

was minimal but, if set up properly, could assist in the discussion of land-use planning and waste disposal. Private owners expressed much greater satisfaction with their housing but indicated some problems with finance and land.

### **Housing Policy in the Micronesian Countries**

It is apparent from the findings . . . that the state of public and private housing is under considerable pressure. These pressures are being caused through a combination of socioeconomic and cultural factors impinging on weak institutional arrangements that are aggravated by the lack of a coherent shelter strategy.

Kiribati Housing Corporation, 1996

Because formulation of housing policy sensitive to the special needs of the national and state capitals is in its infancy in Micronesia, this paper relies considerably on recommendations made in the Federated States of Micronesia and Kiribati. Housing has not received the attention it should have in the postindependence period because of the lack of appropriate housing policies, together with evident difficulties in achieving coordination among the key agencies responsible for urban development. Since most land and infrastructure issues are linked to housing demand pressures, it is hard to see how these issues can be understood and resolved without accompanying housing policy plans.

### **Federated States of Micronesia**

Judging by its very low visibility in FSM's second national development plan (FSMOPS 1992), housing does not appear important enough in official circles to warrant separate sectoral treatment; it is only considered to be a priority issue in the state of Pohnpei. An unpublished overview report by Chollerton (1990) fills the gap to some extent but does not examine the urban situation in any detail. Most progress on the policy front appears to have been made in Pohnpei State where the draft land-use and zoning master plan contains some of the institutional measures necessary to guide subdivision development (PSLUZMPTF 1995). Notwithstanding the surprising omission of housing policy in the national plan, it is necessary to identify a number of underlying factors in the four states that have

## URBAN DEVELOPMENT ISSUES

acted to aggravate the housing situation and make the task of policy formulation particularly difficult. Chollerton lists the following factors: low average family incomes; new, untested land and mortgage laws; high costs of building materials and construction due to high and therefore often inappropriate construction standards; shortage of credit for low- and middle-income families; an undeveloped low-cost public or private sector housing rental market; and lack of experience on the part of the public sector in providing low-cost housing for both government and private sector employees (1990, 2).

Housing needs are also conditioned by several national factors that require the attention of the FSM government. These are summarized as: (a) an increase in low-income households whose needs have not been met by existing housing programs, particularly in Chuuk State; (b) the slow construction rate and inadequate maintenance of public housing, especially in Yap State; (c) poor administration of state housing authority loan programs; and (d) the increasing rate of migration from outer islands and the recent emergence of substandard squatter housing in some locations (Chollerton 1990, 2).

Considerable progress was made during the first national plan period (1985–1989) in establishing a mortgage market, associated trust laws, and building codes to allow the maintenance of US federal housing loans. Each state has its own housing institutions, reflecting the considerable variation in conditions existing across the country. Pohnpei and Chuuk, for example, have housing authorities that are responsible for providing subsidized private housing loans and act as the trustee for the US Farmers Home Administration housing programs (FmHA). In Yap State responsibility for housing loan administration has been given to a private nongovernmental organization (Yap Community Action Program) and the housing authority acts only as a trustee for the FmHA programs. In Kosrae housing loans are administered by the Housing Renovation Office in the Office of Planning and Statistics and no state housing authority has been created (Chollerton 1990).

Although the housing loan program is considered to have made substantial progress in financing private housing in the Federated States of Micronesia during the first plan period, it seems that the subsidies involved have largely

## HOUSING

benefited better-off public sector employees who have been able to make use of very generous provisions indeed. Chollerton reports that the FmHA program for reconstruction and rehabilitation, for example, has a debt ceiling of \$2,500 at only 1 percent annual interest payable over 15 years (1990, 4–5). Further, the loans have largely been confined to the state capitals and surrounding areas. Almost 50 percent of all existing households in the Yap State capital of Colonia received FmHA assistance to renovate. For Kolonia in Pohnpei the figure is 55 percent compared to 20 percent for the whole of Kosrae. A problematic effect the loans are having is reducing the use of traditional building materials in even the most conservative parts of the Federated States such as Yap proper, where only 3 percent of housing is now built of indigenous materials.

Among the other important policy issues, land stands out as a continuing constraint on the introduction of secure financial arrangements for all income groups. As Chollerton points out, the situation varies among the four states with Pohnpei having considerable reserves of state-owned land that could be used for housing, whereas Yap has very little because most land is held communally (1990, 12). In the main urban areas a leasehold system needs to be considered together with improvements in the mortgage laws and, possibly, land banks. Housing standards have suffered from the lack of national building codes in the Federated States of Micronesia until recently, but care is necessary to ensure that improved standards are not introduced at the expense of affordability.

An important priority in the Federated States is to adopt a clear set of housing objectives of the kind originally suggested by Chollerton (1990, 9–10). Although not included in the second national development plan, the achievement of these objectives remains the chief goal of a national housing strategy:

- Assess the need for, role, functions, and institutional basis of housing support at the national level
- Ensure access to unsubsidized and secure housing finance by middle- and upper-income earners
- Determine and clarify the roles of state housing authorities and government agencies in the provision of housing finance and their relationships with the FmHA loan programs

## URBAN DEVELOPMENT ISSUES

- Assess the desirability of redirecting current government housing initiatives toward rural and outer island self-help and village improvement programs
- Determine the role and function of the state housing authorities and other agencies in providing and maintaining public housing stock, slum upgrading, provision of low-cost site-and-service areas, and land assembly
- Determine the roles and functions of local government in providing shelter

In addition, and not mentioned specifically, are the special needs of the larger urban areas (particularly Kolonia in Pohnpei) where most of the pressure for housing in the country originates. Welcome though rural improvement efforts might be, it is hardly likely that they will lessen the need to focus attention in the towns.

### **Kiribati**

The 1995 South Tarawa housing study (KHC 1996) highlights a list of recommendations to be incorporated in an interim South Tarawa shelter study for 1997–2000, covering the key areas of affordability, ratios of people to dwellings, tenure, preferred locations for living, hidden households, condition of housing stock, house types and materials, general improvement plans, and implementation considerations. As the report points out, some of the options presented for consideration are quite radical in the context of traditional island life, as they pose challenges to fairness to all, a classless society, and the domination of strong extended family links. For example, various strategy options are canvassed regarding the need to control a rise in the number of occupants per dwelling from the time of the 1990 census to the time of the housing survey in 1995. Strategies include giving priority to unemployed South Tarawa residents to move to the outer islands under the Line and Phoenix Resettlement Scheme; instituting family planning measures; developing a maximum occupancy standard based on house and plot size; and introducing a personal tax on those over 16 years of age, excluding full-time students, for use in the provision of urban services.

In terms of tenure, it is clear that the Kiribati Housing Corporation is

## HOUSING

concerned to address the familiar difficulties associated with highly subsidized civil service housing, inherited from colonial times, which provides limited effective assistance to those working for the government. Here, possible measures include the transfer of housing allowances to individual salaries from 1997 rather than being attached to possession of a KHC house; the promotion of new residential areas identified in the urban management plan, with priority given to residents from the main centers who wish to relocate; and the introduction of a tax incentive to private landlords who build in preferred residential areas. Combined with these are several short-term measures, including requiring retiring civil servants who are not from South Tarawa to return to their home islands; restricting residence in South Tarawa to those outer islanders with employment and those born there; and restricting unemployed outer island visitors to short permits of the kind used on Christmas Island.

Although some of these options would be hard to introduce in Kiribati at the present time, as they have proved difficult in the past (Connell 1983b; 1983e), they are advanced as a series of possible stepping stones toward overcoming a deteriorating urban situation that will not be remedied by words alone. Ultimately the main government agencies, like the Kiribati Housing Corporation, are responsible for introducing strategies of a kind that will allow sustainable development in this atoll state. The South Tarawa study recognizes the reality that successful housing policy is critical to the achievement of sustainable urban living conditions.

### Marshall Islands

The land use pattern on Majuro can best be described as a mosaic of spontaneously grown clusters with different types and sizes of shelter occupied by households of different income groups and rural origin, interspaced with an uncontrolled spread of low-key commercial development and a few light industries, government offices and other public institutions such as schools and churches. As could be expected from such a development, there are extensive planning issues that need to be addressed in order to make the growth sustainable.

UNCHS and UNDP 1994, 129

## URBAN DEVELOPMENT ISSUES

Majuro's pattern of urban development, not unique in Micronesia, is an accurate picture of land use in all the larger urban centers. Housing policy in the Marshall Islands is considered in some detail in the second five-year development plan (MIOPS 1991) but there are well-founded doubts whether it is possible to implement the listed objectives and strategies satisfactorily. The national housing authority was dissolved in 1991 and responsibility was transferred to the Housing and Home Improvement Division of the Ministry of Social Services. Various government loans and other measures appear to be managed by the Marshall Islands Development Bank and the Public Service Commission in an unplanned manner (UNCHS and UNDP 1994). The challenge confronting the government is thus to achieve its own clearly listed housing objectives: assist the private sector in constructing and/or owning safe and sanitary houses, giving priority to low- and middle-income families and victims of natural disasters; prevent housing congestion and eliminate overcrowded or blighted areas; and secure and provide advisory assistance to local governments and private people in areas such as physical planning, housing design, low-cost housing construction techniques, use of local construction materials, [and] housing safety standards (MIOPS 1991, 375).

The 1994 UN mission report (UNCHS and UNDP 1994, 130–136), which looked at urbanization in the Marshall Islands in some detail, provides some sense of the likelihood of success in this task. They considered the \$2.5 million annual housing budget for the period of the second development plan (1991–1996) to be totally inadequate to sustain current operations or to alleviate poor existing conditions. Among the special factors constraining the success of government measures are the huge extent of rehabilitation required; the high unit cost of construction; the low income levels of those requiring assistance; the inhibiting effects of land tenure systems on construction and improvement of low-income housing; and the high densities in the Darrit-Uliga-Dalap area of Majuro atoll, which provide little scope for on-site improvements.

In this paper it is possible to look at only some of these factors, but collectively they indicate a housing sector in great need of dedicated planning

## HOUSING

strategies. Although the problems revealed bear some similarity to those in Kiribati, in the Marshalls they are several orders of magnitude larger; there are also a number of qualitative differences. The very poor condition of much urban housing stock has precipitated a maintenance crisis. Even though the 1988 housing census showed that Marshall Islands housing facilities, measured by piped water and electricity connections and use of flush toilets, are rather better than in most developing countries (reflecting large infrastructure expenditure during the period of US administration), the UN mission found that 20–30 percent of housing stock requires immediate replacement or structural upgrading.

High unit costs of housing construction are a feature common throughout Micronesia but they are excessively high under the atoll conditions experienced in the Marshall Islands. Materials are imported from Hawai'i—itself a high cost location—resulting in a requirement for domestic housing loans of up to \$50,000 via agencies such as the FmHA. As a side effect of the high cost of imported materials, lagoons are mined for sand and reefs blasted for rock to be used in the construction industry. These unsustainable practices are likely to impose high environmental costs and have already contributed to serious problems of coastal erosion.

The residential density in Majuro is very high—upward of 1200 units per square kilometers overall, with higher levels in parts of the Darrit-Uliga-Dalap area. Based on present indications these densities could reach an unsustainable level of over 4800 per square kilometer by the year 2022. Such a settlement pattern could take one or parts of three possible paths (UNCHS and UNDP 1994): first, in the absence of land tenure reforms there is likely to be severe overcrowding of existing dwellings to the high density level predicted; second, if high- and medium-rise flats are technically possible and are introduced, some land can be made available for open space; or third, the economic development of alternative locations in Majuro atoll and elsewhere might redirect growth in a more balanced way. For this third possibility to work, however, difficult and unpopular measures of the kind already suggested in the Kiribati housing study must be considered.



**Palau**

An examination of the comprehensive bibliography attached to the *Palau National Master Development Plan* (SAGRIC International 1996) suggests that there are no local studies or plans dedicated to housing provision and policy in Palau. Indeed, there would appear to be little information about the state of shelter in the republic, other than that summarized in the 1990 census of population and housing (US Department of Census 1991) and a brief description of the Palau Housing Authority in the national master development plan (SAGRIC International 1996, 5-36 to 5-37). A housing authority was established in the 1970s to administer US federal loans for rehabilitation to low-income families, as was the case in some other states of the former trust territory. Generous subsidies were available on loans up to \$100,000 at low interest rates; by 1994, some 210 loans were on the authority's books at just over \$1 million. For example, a typical rehabilitation project under the US Community Development Block Grant program (CDBG) was instituted in 1988 to rehabilitate thirty-five privately owned homes at an average loan per dwelling of \$7,000. A CDBG Small Cities Performance Assessment Report in 1993 shows that thirty households completed the rehabilitation but five loans were repaid as a result of a moratorium that suspended all lending by the authority (Lucy Cabral, Palau Housing Authority, personal communication, 1996).

It seems that a case of embezzlement in the authority led to action on the part of the US federal agency involved to prevent further lending. This fact, together with a considerable level of arrears on existing loan repayments (estimated at 30 percent in 1996) has threatened the future of the authority. It has been reluctant to take possession of dwellings subject to long-standing arrears and has been prevented from raising funds locally because of a lack of government guarantees. The situation is not dissimilar to that faced by the Papua New Guinea National Housing Corporation in 1992 when significant arrears and other financial problems led to a "give away" scheme relinquishing all government houses to their tenants at no cost (Connell and Lea 1993, 112). According to the national master development plan it would be better to wind

## HOUSING

up the operations of the authority and transfer them to the Palau National Development Bank where more financial expertise is available and rent collection and enforcement will be more efficient (SAGRIC International 1996, 5-37).

The need remains, however, for a comprehensive housing study to be undertaken without delay to provide the basis for appropriate policies in Koror in particular. A recent appraisal of environmental conditions in Palau reports there is a shortage of land in the capital for building new sanitary waste disposal facilities, and overuse of landfill has contaminated the foreshore.

### **Accommodating Micronesia**

It is apparent that there has been no more than reluctant government involvement in regulation of the housing sector in each of these states. There are few planning controls relevant to the design of houses or housing projects and no requirements to obtain planning permission and where there are building codes, they are not policed adequately.

Connell and Lea 1995, 112

Although these comments were not directed at housing conditions in Micronesia—they refer to the situation found recently in the three independent Polynesian states of Tonga, Tuvalu, and Western Samoa—the message is very relevant to conditions also found in Micronesian towns in 1996. Of course, there are significant differences as well, and the circumstances of the two atoll states of Kiribati and the Marshall Islands in particular display additional problems requiring urgent resolution. The state of housing in Micronesia is a reflection, however, of many influences that are not all equally susceptible to the planned effects of government policy. History, as we have seen, has played a major role in determining social, economic, and physical conditions for urban development that distinguish the former US trust territory states from everywhere else in the Pacific apart from American Samoa. The region as a whole was more deeply involved in the Second World War than the countries to the south, and the effects of Japanese and then American occupation are

## URBAN DEVELOPMENT ISSUES

seen in high spending on infrastructure, widespread land registration, and urban growth rates presently ameliorated through the ease of movement by most Micronesians to the United States and other parts of the American Pacific.

Despite the rather favorable conditions for economic development in much of the region over the past few decades, very little is known about Micronesian housing and households, and new policies are in danger of being made with very little empirical evidence. It is ironic that only in Kiribati, the least prosperous country in the region, are adequate attempts being made to understand the housing situation and process. Although they share a common need for much better information, each of the four countries face substantially different urban housing priorities. In the Federated States of Micronesia, for example, the increasing national importance of Kolonia, with Palikir a focus of bureaucratic growth, has made it a target of intransland migration and emphasized the need for physical planning of an area that includes parts of three municipalities and the federal capital. Land and infrastructure is available to accommodate anticipated growth but conflicting jurisdictions and the continuing importance of traditional authority have paralyzed efforts to plan for the urban area as a whole.

In Kiribati, government approval of the South Tarawa management plan is a major achievement. Alone within the four countries, the Kiribati Housing Corporation appears capable of providing the institutional means to carry out some difficult decisions. Unfortunately, because of poor national resource endowment and precarious physical conditions in the atolls, Kiribati is likely to remain a client state overwhelmingly dependent on foreign aid and subject to the vagaries of global warming and sea-level rise. The neighboring Marshall Islands has experienced more favorable economic conditions owing to its close American ties but the presence of the US military, particularly on Kwajalein, has directly contributed to urban growth pressures that are unsustainable. Here, too, it seems certain that a proportion of the population will not be accommodated adequately but will be forced to migrate in the course of the next century. Though this may occur more naturally with the winding down of

## HOUSING

activities at Kwajalein, it may also lead to greater pressures on Majuro. In the short term there is a critical need to develop the institutional management of housing policy in a way that reflects the requirements of an independent state.

Housing conditions in Palau appear to be the most favorable in the region, both on economic and physical grounds. Confirmation of the construction of the new national capital in Babeldaob together with the island perimeter road will open up extensive possibilities for new growth and resettlement. As the last country to agree to the Compact of Free Association terms, Palau has secured major financial subsidy well into the next century and the ability to service residential developments with essential infrastructure. Present indications, however, suggest that it is already becoming an expensive place to live by developing country comparisons (SAGRIC International 1996) and that the substantial migrant workforce will require affordable housing of a permanent kind. By definition most of this demand will be in the main town of Koror where physical conditions are poor and where infrastructure upgrading is costly. Demand is certain for rental flats and apartments of a kind that have not been traditionally present in the country and that will demand a new level of service. There is an urgent need to investigate the revitalization of the Palau Housing Authority or, as the *Palau National Master Development Plan* (1996) recommends, to create an effective housing policy unit in the Palau National Development Bank to handle this problem. The short- to medium-term prospects for improving housing for guest workers are not good, given the pressure to develop the tourism industry with new hotels and other attractions. Housing in this context is also politically sensitive and requires more direct management and attention than is likely to be possible through the national bank.

Current housing conditions in Micronesia are generally good by international developing country standards and this is reflected in the relatively minor attention to the sector in the Federated States of Micronesia and Palau. But this situation is also related to low levels of indigenous urbanization historically, a precondition that has changed almost everywhere in the region today. Judging by the evidence seen here there is an urgent need everywhere,

## URBAN DEVELOPMENT ISSUES

apart from Kiribati, to gain a good understanding of the housing process and to support the creation of the institutional means to implement government policy. This will require considerable cooperation among national, state, and local governments in countries where these entities are small and where some of them have scarcely any resources. However, the experience of Kiribati is likely to be valid elsewhere. More generally, comparative experience suggests that the importance of housing policy is directly related to the level of urbanization and though still modest in this region, new demands for rental accommodation in Kolonia and Koror are a sign that the honeymoon is over.

## Public Utilities

People keep telling me the same story. They say, "In the old days, we just finished our banana and threw the peel over our shoulder, never thinking about it again. Nowadays it's still being done, but not with just banana peels anymore. Now we throw Coke and Bud cans and everything else."

Letter to the Editor, *FSM-JTPA News*, September 1995

DEMANDS ON URBAN infrastructure and services in Micronesia come from two main sources—a long-standing need to provide sanitation services in places where there have been few services in the past, and recent efforts made in response to new growth pressures. Complicated by a penchant of national governments to allocate and approve major urban investments that will benefit an already privileged section of the population, the challenges for all levels of government are peculiarly difficult. They include finding the political will to acquire necessary land and easements; ensuring the adoption of a legally binding planning system; and managing to pay for increasingly better public utilities. Acceptance of the high costs and benefits associated with urban living is a characteristic of industrialized countries but a feature that is yet to emerge in most small island states.

Besides obvious differences in geography and scale, other features of urban infrastructure and service provision in individual Pacific Island countries reflect variations characteristic of their colonial past. In the South Pacific this is mainly demonstrated in differences in delivery systems; a preference for private provision of public services is found in former French possessions such as parts of Vanuatu, in contrast to a tradition of public provision elsewhere (Connell and Lea 1993). In Micronesia the three former US trust territory entities considered here can be distinguished from Kiribati and much of the rest of the independent Pacific by high levels of public infrastructure provision and the nearly universal

## URBAN DEVELOPMENT ISSUES

adoption of corporatized utility companies. In general terms, throughout the region there is expectation of high levels of service but an unwillingness to pay for it.

A number of other features of the social and cultural setting in the Federated States of Micronesia, the Marshall Islands, and Palau underlie current conditions. Distinct cultural differences and climatic variations have given rise to differences in water use, such as utilization of roof catchments according to seasonal changes. Four succeeding colonial administrations have done much to disrupt traditional practices and delayed the evolution of self-determined institutions for water supply and waste disposal. Old installations include stream weirs and intakes, treatment works, storage reservoirs, and water distribution and sewage collection systems. The strongest influence has been the US administration and succeeding Compact arrangements that have fueled high service demands in a climate of low affordability and unwillingness to pay for services (Stanley International Group 1995).

The focus here is on the condition of urban sanitation infrastructure and services in Micronesia—on water supply, sewage treatment, and waste disposal—and on power provision, to the exclusion of other important urban services like health and transport. It has not been possible to include the whole urban sector within the confines of this study and much further investigation remains. Indeed, many of the most valuable findings on roads, health, education, and other issues remain locked in inaccessible consultants' reports. Only research into the associated environmental effects of growth and development appears to have received wide comparative treatment and this owes much to the work of the South Pacific Regional Environmental Programme (SPREP) and other related agencies (see SPREP 1993; Gawel 1993).

In this chapter sanitation services are examined initially for each of the four countries, followed by a more general consideration of power supplies. Sources of information are generally best for the Federated States of Micronesia where a set of perspectives considerably wider than that for the other states has been found. This study relies to some extent on national development plans and urbanization reports in Kiribati and the Marshall Islands, where little in the way of

## PUBLIC UTILITIES

press and other reports were available. In spite of the obvious and crucial importance to urban life of limiting urban environmental pollution and securing reliable power supplies in these small countries, it seems that a “planning by sector” approach has often relegated such issues to a technical realm isolated from other planning considerations. Effective urban environmental management must incorporate responsibilities for the provision and management of public utilities but this goal remains to be accomplished in almost all countries in the world. The requirement is most urgent in small island states where fragile physical conditions and poor financial endowments compound the damage from unplanned growth.

### **Water Supply, Sewage Treatment, and Waste Disposal**

In the only detailed comparative report on urban sanitation services in the South Pacific, the World Bank has said that poor conditions are adversely affecting the economic futures of small island countries: “The coverage, quality and reliability of urban environmental sanitation services affects the quality of life for these growing urban communities. It also directly impacts the productivity of the urban economy which has become a major GDP generator. . . . Further development of manufacturing and tourism—key components of these economies—is becoming limited by capacity constraints in water and environmental sanitation facilities and networks” (1995a, ii).

Tourism has been fairly slow to expand into independent Micronesia. But the overdevelopment of tourism already so apparent in neighboring Guam and the islands of Saipan and Tinian is a reminder of the impacts and demands it can make. None of the four countries examined here have facilities in place that could begin to cope with the kind of tourism growth pressures experienced in the Northern Marianas, yet all indicate a desire to foster tourism in their national development plans. Only Palau has experienced any real pressure from tourism developers at this stage and the experience is one that is causing increasing tensions for almost every aspect of urban growth in that country. The other major development sector identified—fisheries—also demands a substantial, reliable, and safe water supply and good sanitation conditions for produce export.

Water is generally plentiful in the high islands but shortages are a severe



## URBAN DEVELOPMENT ISSUES

constraint in the atoll states and parts of the Federated States of Micronesia. Sewage treatment and waste disposal are ubiquitous problems and, despite considerable provisions made from the Compact funds, remain of great concern. In the following sections water supply is considered first, then sewage treatment and waste disposal, for each country in turn.

### **Federated States of Micronesia**

#### *Urban Water Supplies*

A great deal is already known about water supplies in the Federated States after the recent completion of UN Development Program-funded Water Supply Development Master Plans for Weno (Chuuk), Kosrae, Kolonia Central Water Supply System (Pohnpei), Yap proper; and a Project Preparation Technical Assistance study in 1995 funded by the Asian Development Bank (Stanley International Group 1995). The evidence of these studies, together with the successful corporatization of the Pohnpei Utilities Corporation (PUC) in 1991, suggests that best management practice conditions for water supply provision are found in the Federated States of Micronesia, and Pohnpei State in particular. Although there are a number of water supply problems common to all four FSM urban areas, the responses by state governments to local conditions vary significantly. It is only in Pohnpei that the existence of the Pohnpei Utilities Corporation enables the provision of an effective institutional means of delivering good quality services.

The three urban areas (known technically as the unincorporated capital region communities) targeted in recent planning for special improvement in water supplies had the following (estimated) 1995 populations (Stanley International Group 1995, 4.4):

Weno Island, Chuuk:	16,000
Kolonia Water Service Area, Yap:	3,130
Kolonia Central Water Service Area, Pohnpei:	16,000

These populations represent approximately 40 percent of Weno, 45 percent of those living in Yap proper, the whole of the serviced area of Kolonia, plus new services for the adjacent communities of Awak, Meitik, and Sekere. (In some

## PUBLIC UTILITIES

respects these population figures and service regions give a more realistic approximation of the real urban population than anything else.) Research has shown that natural vegetative cover on all the islands has not been disrupted unduly and protects the catchments, although rainfall variations in Weno and Yap sometimes cause prolonged periods of drought. Nevertheless, natural water supplies are sufficient, with proper management, to serve respective urban areas well into the future. The chief problems are caused by recurrent supply failure due to wastage and supply source variability. In addition, water treatment is inadequate or does not exist, causing severe health risks.

### *The Institutional Background*

Both national government and the states are involved in the provision of urban water and sewage treatment. After requests by communities, funds are appropriated by the FSM Congress under the Capital Improvement Program for projects managed by the national Office of Planning and Statistics (FSMOPS) and supervised by a state utility, municipality, or other bodies. Comprehensive federal environmental protection legislation based on the American model has been passed but, according to one source, it is too complex and is not enforced at national, state, or local levels (Stanley International Group 1995). The Department of Health acts in an advisory capacity to the states, which are separately responsible for taking water samples and monitoring sewer systems and water sources. Externally, the Federated States of Micronesia has received considerable assistance from US agencies under Compact arrangements, and Japanese and Australian foreign aid has been used to fund sewerage improvements in Yap and small community water systems, respectively. Further immediate upgrading of urban water systems is being undertaken via new loans from the Asian Development Bank.

Utility corporations are being established in all the states. The most advanced of these is the Pohnpei Utilities Corporation. Since incorporation in 1993, the PUC Water and Sewerage Division has greatly improved levels of service, with shortages being eliminated and twenty-four-hour supplies being available in all areas serviced. The situation is not as advanced in the other three states where

## URBAN DEVELOPMENT ISSUES

efforts are diffuse because no single agency takes responsibility for service provision. The improvements found in Pohnpei, however, have come at a price and have involved a linking of demand management with cost recovery. The introduction of tariffs in 1993 brought down water consumption by 50 percent and generated new revenues that accounted for some 29 percent of the PUC Water and Sewerage Division's operating and maintenance costs in fiscal year 1994 (Stanley International Group 1995). This is the same "user-pays" philosophy recently introduced in other Pacific states such as Western Samoa, where fears were expressed that a "two-speed" system might eventuate "which will consist of a free, intermittent and unsafe water service where the Authority is not involved, and a costly [and safe] supply where it is." (Connell and Lea 1995, 124). However, the financial independence of the sector is increasingly seen as a prerequisite to developing and maintaining a viable urban water supply. Limitations on the ability of consumers to pay will require education of the public to reduce usage and adopt conservation practices. Existing water and sewerage tariffs will rise throughout the Federated States of Micronesia and are likely to require special consideration for the poor so as not to place an insurmountable burden on their capacity to pay.

The new public utility corporations will be obliged to greatly improve the management of water supply and maintenance and reduction of nonrevenue water losses. Network leakages, existing in all state systems, were as high as 60 percent in Kolonia prior to the establishment of the Pohnpei Utilities Corporation. Indeed, water was often unavailable in a place with one of the highest rainfalls in the world. This loss rate has now been brought down to 45 percent (Stanley International Group 1995). Disinfection of groundwater sources is not practiced in some states with the result that supplies may be easily contaminated.

### *Sewerage*

In contrast to many small towns in South Pacific countries, Kolonia, Weno, and Colonia have functional sewage treatment works connected to ocean outfalls. Palikir, the federal capital, has a septic tank sewage system with temporary mound leaching field disposal (Gawel 1993, 28). Little is known about the envi-

## PUBLIC UTILITIES

ronmental effects of these Micronesian urban outfalls on lagoons and reefs, and recommendations have been made to conduct dispersion modeling to ascertain the impact of discharged effluent. An independent appraisal of sewage disposal capabilities in the Federated States of Micronesia, conducted in 1993 before the Pohnpei Utilities Corporation was created, is not complimentary and singles out conditions in the urban areas for particular comment: "There is a central sewer system in Pohnpei which covers almost all of Kolonia and part of Nett. The sewage treatment is non-operational and raw sewage is dumped into a confined recreational bay area; and five of the six lift stations routinely bypass sewage into local rivers. The sewer system is poorly constructed and pipe leakage contributes to contamination of groundwater and surface water, aggravating existing health hazards" (SPREP 1993, 58).

As in many other developing countries, the chief problem in FSM waste disposal is not so much the provision of the infrastructure itself but an inability to maintain existing sewer systems and treatment plants. This has been a perennial problem in Micronesia and there is evidence of continuing difficulties. At a World Bank regional seminar held at the East-West Center in Hawai'i in August 1993, the FSM delegate reported that "there are central sewer systems in the urban centers but the treatment plants are not functioning due to a lack of funds for operation and maintenance and the shortage of trained manpower to operate and maintain the systems" (FSM 1993a, 2).

### *Solid Waste Disposal*

The poor conditions for solid waste disposal in the urban areas of the Federated States of Micronesia have been well publicized through the 1993 studies on the state of the environment (Gawel 1993) and the nationwide environmental management strategies (NEMS) (SPREP 1993) and regular warnings by the environmental protection boards in each state. The lack of a public solid waste collection system is a major cause of roadside and other litter in the urban areas. Problems with dump sites are also present in each state and have become the object of specific recommendations in the NEMS report (SPREP 1993). In Pohnpei, plans are being advanced to move the public dump, unacceptable and badly located

beside the airport, to Palikir where there is a possibility it may be privatized (*FSM News*, 3 June 1996). This notorious urban dump has also given rise to one of the more exotic and colorful stories about modern island life in the Pacific: "The current awful squalor on the airport road has a curious sub-life of its own. It attracts rats, who attract scavenging cats. And these cats attract Chinese fishermen at night with flashlights and heavy boots. One witness who saw eight Chinese men scavenging . . . told the *FSM NEWS* that they go there to catch cats for their dinner" (*FSM News*, 3 June 1996).

Above all, cultural attitudes toward refuse must change to recognize the severe polluting effects of a throw-away society. As indicated in the opening quotation to this chapter, modern refuse is rarely biodegradable. Moreover, a very small country like Kiribati uses between 2.5 and 3 million aluminum cans per year! (SPREP 1994). Among the national environmental management strategies is a public education campaign to encourage preventative health care through the promotion of safe sanitation practices.

### **Kiribati**

Knowledge about the urban sanitary situation in Kiribati and the identification of development priorities has improved enormously since a "development standards" workshop was held in South Tarawa in September 1993 and an urban management plan was subsequently finalized (KMHARD 1993; 1995). Both of these sources are used extensively in this paper.

Kiribati appears to be the only Micronesian country where a national government department has taken a lead in encouraging public discussion of urban service issues and, most importantly, has made the results of such meetings widely available. As a result, there is plenty of evidence to show that urbanization in South Tarawa has been considered in its entirety in contrast to the sectoral treatment typical of national development plan documents. This is not to say that urban management conditions are ideal in Kiribati, where the list of national and local government bodies and agencies involved in service provision and delivery seems endless. The divided responsibility for environmental affairs in South Tarawa lessens the effectiveness of enlightened planning arrangements. In this

## PUBLIC UTILITIES

respect, at least, the new multifunctional utility corporations under establishment in the Federated States of Micronesia, such as the Pohnpei Utilities Corporation, are better able to deliver basic urban services efficiently.

### *Water Supply*

Reticulated urban water in South Tarawa is provided periodically to some 3,500 connections at a cost of \$1 per cubic meter. Supplies are drawn from the freshwater lenses in Buota and Bonriki, chlorinated at source, and retreated at Betio. Basic supplies were secured through the Australian-funded Tarawa Water Supply Project completed in 1987 but demand is higher than the level of extraction, resulting in a restricted service (KNPO 1992). Cost factors and the erratic supply of reticulated water have meant that, according to the 1990 census, almost half of all households use wells as their sole or main source; a further 35 percent utilize rainwater catchment, leaving very few households reliant on treated water. The Atoll Research Programme survey revealed that only 17 percent of households exclusively used piped water, with all the others depending at least partially on wells and tanks. More than half of all households did not collect rainwater, either because they could not afford a tank or because they lived in traditional housing without a metal roof (Atoll Research Programme 1996, 15). As a result, some 20 percent of the population of South Tarawa annually come to hospitals in Bikenibeu and Betio with diarrhea-related sickness.

Key problems confronting the government following increasing urbanization in South Tarawa are the limited capacity of the freshwater lenses at Buota and the encroachment of settlement on these reserves. Alternative sources are more distant and expensive, and current inability to meet existing demand raises doubts over the long-term wisdom of concentrating on supply factors alone. Short-term relief can be secured through good management practice and public education measures, such as continuing water restrictions, better use of rainwater, elimination of leakages, education about conservation, and raising tariffs. Tank provision is probably the most preferred solution, yet just over half of urban households are willing to pay for improved water supplies. Ultimately, these avenues will be exhausted.

## URBAN DEVELOPMENT ISSUES

It is difficult to avoid the conclusion that indefinite urban population growth cannot be an acceptable option in this small atoll state. A recent review of possible settlement strategies in Kiribati by Chung (1994) confirms that continuing population growth in South Tarawa is likely at a rate of at least 800 persons per year, primarily the result of natural increase rather than migration. The review does not, however, examine in any detail the capacities of urban counterattractions such as Kiritimati, instead placing hope on what is termed an integrated settlement strategy for South Tarawa. Somewhat vague exhortations see political commitment, promoting public understanding, and institutional strengthening as the way ahead. It is now more likely that higher density housing will be permitted in Betio, and some provision will have to be made for new development in North Tarawa. Given the continuing primacy of South Tarawa, the most practical physical solution to overcoming the water crisis is developing new freshwater lenses at Temaiku Bight, Abatao, and Tabiteuea (North Tarawa). A more extensive use of roof catchments and water tanks suggests another alternative. There are also various disused gutters and cisterns in Bairiki and Betio that might be rehabilitated. Desalination options are expensive and would have political as well as financial implications the country can ill afford.

### *Sewerage*

About two-thirds of South Tarawa's urban population has been provided with reticulated sewerage since a cholera outbreak in 1977. But the system is "under increasing strain and is already operating above capacity" (KMHARD 1995, 17); it is also badly deteriorated. Facilities are confined to flush toilets in low-density housing and government offices, and communal toilet blocks in public housing areas of Bairiki and Betio Village. Most of the communal cisterns are broken and maintenance breakdowns are widespread. As a result, some 60 percent of households still make use of the beach as a traditional place for defecation as do many household animals, including pigs, which are usually penned at the edge of the beach. The Atoll Research Programme study found that only 18 percent of households had toilets within the house and 47 percent had no access to a formal toilet of any kind; only 58 percent of the toilets were connected to official sewer-

## PUBLIC UTILITIES

age systems (Atoll Research Programme 1996). The Kiribati Water and Sanitation Co-ordinating Committee has not proved effective, and the new *Urban Management Plan for South Tarawa* looks ahead to the preparation of water supply and sewerage master plans and institutional strengthening of the Public Utilities Board and Public Works Department.

A more critical issue is the lack of local skills adequate to maintain the engineering activities of the Public Utilities Board (since several engineers have migrated recently), contributing to severe problems in keeping the power station, water supplies, and sewerage systems functional. The sewerage system has deteriorated significantly because of inadequate maintenance and now reaches fewer people than it ever did in the past. The Atoll Research Programme study revealed that communal toilets failed almost entirely, and few were willing to use or maintain them. However, the majority of homeowners were willing to pay for improved connections to an adequate system and there was growing recognition that use of the beach was no longer appropriate.

### *Solid Waste Disposal*

The nationwide environmental management strategies study for Kiribati completed in 1994 underlines the ways poorly managed waste disposal practices have negatively impacted the quality of the environment in South Tarawa (SPREP 1994). Severe environmental degradation is resulting from unsupervised dumping in pits, irregular collection, and council dumping of collected waste in badly situated foreshore sites that are neither lined nor engineered. The vast majority of households engage in no recycling practices, even of vegetable materials (which might be used for compost or animal feed), and a substantial amount of material is dumped in taro pits, thereby reducing their present and future value. One partial cause of these problems is the apparent inability of urban councils to afford an adequate garbage collection service; most households are unwilling to pay for improvements, arguing that it is a council responsibility (Atoll Research Programme 1996, 36).

The South Tarawa urban management plan also notes local councils' lack of sufficient financial resources to collect and dispose of waste. Other key issues



## URBAN DEVELOPMENT ISSUES

listed in the plan include lack of community awareness that waste disposal is a problem, the outmoded nature of current disposal practices, and both water and soil contamination by leachates from dump sites. However, recycling opportunities are just starting to be investigated by the private sector, and land reclamation possibilities from waste do exist, subject to strict safeguards. (KMHARD 1995, 13–15). The South Tarawa plan recommends preparation of a waste management plan including identification of centralized disposal sites and recycling options, introduction of waste compactors, and enforcement measures for waste collection and disposal. Thus a great deal of store is placed on the preparation of yet further plans as the solution to a problem that was clearly identified in 1982 (Larmour 1982).

### **Marshall Islands**

Improvement in the quality of life of the Marshallese is one of five objectives in the national development plan. One would have thought this objective might require drawing close attention to connections between higher density living through increased urbanization and the need for good environmental sanitary services. In the Marshalls as in Kiribati there is a high incidence of diarrheal disease, typhoid, and hepatitis, all of which have links with the quality of water supply, sewerage, and waste disposal.

Institutional responsibility for public utilities in the Marshall Islands is shared between national and local government departments and agencies and two public companies. At the national level the Ministry of Public Works carries overall responsibility for the sector and manages solid waste disposal, and the Environmental Protection Agency covers monitoring and appraisal activities. The Majuro Water and Sewer Company was established as a public company in 1989 to manage services in the capital and is run by a private contractor. In Ebeye, the Kwajalein Atoll Joint Utility Resource carries out similar duties (MIOPS 1991). The local government is the body responsible for sanitary utilities provision in the other atolls.

## PUBLIC UTILITIES

### *Water Supply and Sewerage*

Majuro almost constantly experiences a severe water shortage. It is primarily served by a freshwater catchment supply from the airport runway; the water is stored and treated before distribution. Small additional supplies are available at the hospital and at Laura. Because the airport runway was constructed two meters below the intended level, water quality is intermittently affected by salt water spray and by garbage originating in the lagoon where water levels can be higher. The passage of Typhoon Axel through Majuro in January 1992 demonstrated the fragility of this water supply as high waves washed chunks of coral and sand into the airport catchment, clogging pipes and putting half the system out of commission. Any sea-level rise would therefore reduce the utility of the airport runway catchment and reduce the size of the Laura lens, threatening both water sources. There is ample evidence that residents prefer to use rainwater, especially from the airport runway (Detay and others 1989, 68), rather than wells, though roof catchments are limited in extent and underutilized (Stephenson and Kurashina 1987). There is scope for the extension of these catchments but, because of contamination, only about 30 percent of those that now exist provide potable water. A significant number of the wells in the Darrit-Uliga-Dalap area are polluted. Only one is in regular use but others are used during droughts, supposedly only for bathing and washing. During the 1991–1996 plan period, rainwater catchment systems were to be constructed on a number of public buildings, and new building codes were to require fresh water collection and storage facilities to be incorporated into all new construction projects, but there is little indication that either has occurred.

Sewerage reticulation uses saltwater pumped from the sea. Majuro Water and Sewer Company records for 1990 show that billing revenue covers only 25 percent of operational costs, largely because of many unmetered connections. Supplies outstripped consumption by 40 percent in 1991 but little margin is allowed for variations in annual rainfall (UNCHS and UNDP 1994). A long list of measures designed to increase water supply are contained in the national development plan, but there are clearly limits to how effective these can be in the face of increasing population and new economic initiatives. Water requirements of

## URBAN DEVELOPMENT ISSUES

employment-generating projects in Majuro provide a good example of the conflict that can occur between desires for economic advancement and the limitations implicit in achieving sustainable development (Connell and Maata 1992). Some 15 kilometers of sewerage reticulation lines and treatment in Majuro are now available, representing much better facilities than those found in Kiribati, the other Micronesian atoll state.

The supply of utility services on Ebeye is reported as being quite good. This is largely because of the financial resources of the Kwajalein Atoll Development Authority, exemplified by the provision of a desalination plant that utilizes waste heat from the power station. This facility is said to produce around 150,000 gallons of freshwater daily, augmented by individual roof catchments. The UN mission of 1994 suggests that a local issue now more critical than water supply is the large amount of land occupied by the water storage tanks on an island that measures only 0.39 square kilometers (UNCHS and UNDP 1994, 126). Sewerage on Ebeye consists of a saltwater reticulated system and wastewater treatment, again reflecting the availability of Compact funds to expend on infrastructure provision.

### *Solid Waste*

Solid waste disposal appears to be a weak link in the provision of sanitary services on both Majuro atoll and Kwajalein. Garbage often piles up in urban areas, providing breeding grounds for rats, flies, and mosquitoes, and also supplying playthings for small children. Garbage collected in Majuro is taken to the public landfill on Long Island, but there is seepage from the dump into the ocean and nearby coastal waters are polluted. Collection and disposal services, dumping, and landfills are severely criticized:

In Majuro and Ebeye there are two designated landfill locations where solid wastes collected throughout the urban areas are deposited. Majuro's landfill site on the ocean side of Long Island is managed by the PWD [Public Works Department]. At this site, which adjoins the works yard of the PWD, the solid wastes deposited are periodically compacted and sealed with sand mined from the lagoon. This particular site, having expanded twice since it was opened in 1989, has a capacity of 17,600 cu m (Harding 1992, 46).

## PUBLIC UTILITIES

Though this landfill site is monitored by the EPA, which requires the landfill to be covered with sand on a daily basis, senior officials of the PWD are concerned over certain aspects of this operation. It is claimed that the landfill is heavily contaminated and, due to lack of adequate equipment to compact and seal efficiently, is a potential hazard despite being fenced around to prevent children playing in the area. Further, as there is no strategic land-use plan developed for Majuro as yet, the future use of the reclaimed land has not been determined. (UNCHS and UNDP 1994, 161)

In Ebeye the landfill site at the northern end of the island is said to be encroaching on the lagoon, opening up the possibility of pollution. In this situation there is a conflict between the twin objectives of waste disposal and land reclamation, with the latter requirement taking precedence. The technical challenge of environmentally appropriate disposal is well understood but, as the UN mission pointed out, the effectiveness of protection measures are compromised unless enforcement is carried out. Penalties for violation of environmental legislation can incur fines of up to \$10,000 per day but are usually ignored until the time-consuming judicial process is instituted (UNCHS and UNDP 1994). Environmental management is limited by the land tenure system which gives landowners absolute control over land use and access, thereby reducing the utility of regulations concerning waste and sewage disposal, toilet construction, and so on.

### Palau

The new *Palau National Master Development Plan* (SAGRIC International 1996) is unusual in successfully accomplishing dual functions as an educative document as well as a technical appraisal of planning options. The section on infrastructure, for example, examines the administrative, political, and economic contexts within which public utilities are presently delivered and explains in some detail why a change in direction is needed. It is essential to understand at the outset why government-owned utilities in most Micronesian countries fail to operate in a commercially effective way:

Because infrastructure projects are not generally based on economic or financial rates of return and, because the funding was via grants, there was little imperative to seek commercial returns from these assets. As the infra-

## URBAN DEVELOPMENT ISSUES

structure assets depreciated, expectations were that these assets would be replaced with new assets from additional grants. There was little imperative for the assets to perform either in economic or commercial terms. This was exacerbated by the lack of competition and accountability which has tended to result in poor administration, with little concern over design and maintenance. (SAGRIC International 1996, 6-2)

There is now considerable urgency in Palau not only to turn around the management of poorly performing public infrastructure assets, which incurred an operating deficit of \$4.4 million in 1990, but also to determine how best to spend the \$52 million allocated to an infrastructure fund under Compact arrangements. As the national master development plan points out, this requires both the reform of water, power, and telecommunications, and the preparation of strategic plans for each public infrastructure entity. The work entails restructuring of the utilities themselves into corporate bodies, and new pricing, metering, and collection systems. Project selection and new capital investment come later.

The Bureau of Public Works has not proved capable of adequately managing the country's infrastructure demands. The process of corporatizing the most significant infrastructure sectors has started with the Palau National Communications Corporation, the National Development Bank of Palau, the Palau Community College, and the Public Utilities Corporation. Water and sewerage is still under the administration of the Bureau of Public Works but the option exists to transfer these functions to the corporation. Corporatization allows the government to retain full ownership of the infrastructure assets but involves a complete managerial separation and the appointment of an independent board. The four corporations have been established for several years but the special economic conditions prevalent in Palau have not been conducive to their efficient operation. Capital has been easy to acquire but has been accompanied by underpricing, poor management by technically rather than commercially qualified personnel, and considerable waste. In the view of the national master development plan, this situation will change as Compact funds decline, requiring attention to four main areas of pricing: average and marginal cost pricing, sunk capital, capacity constraints, and developer fees.

## PUBLIC UTILITIES

### *Water Supply*

The urbanized Koror-Airai area is served by the Ngirimal Dam and water from the Ngirikiil River fed to the Airai treatment plant. There are three one-million-gallon and two half-million-gallon storage tanks connected to water distribution mains and 2,035 service connections by gravity feed. Some 70 percent of the national population lives in Koror and about 80 percent of the urban population is now metered. This concentration of infrastructure development in Koror is probably justified on population grounds, but on equity grounds it has led to calls by the other states for redistribution. It has also drawn attention to commercial requirements to achieve reasonable returns on capital. Although water supplies are good by small islands standards, present consumption levels of 117 gallons per head (1993) already exceed projections of use by the year 2000, and the shortage of potable water is often an acute problem in Koror (Sem and Underhill 1994, 20). This was especially so in late 1996 after the collapse of the Koror-Babeldaob bridge and the severing of water and power connections with Babeldaob. The *Palau National Master Development Plan* suggests that the catchment supplies are excellent but that the storage system is inadequate in times of severe drought, as in 1983.

The national master development plan recommends a number of improvements to the urban water system, including construction of a new dam in the short term at one of two possible locations on the Kmekeumel or Edeng Rivers, and a new 100,000-gallon clearwell at the Airai water treatment plant. Inadequate water treatment continues to cause health problems; turbidity problems require expensive filtration and chemical pretreatment. Too high a proportion of the water system budget is taken up by personnel expenses, resulting in poor maintenance and insufficient supplies of tools and spare parts. Metering must be completed; as much as two million gallons per day produced is unaccounted for, and lack of technical expertise has prevented proper analysis of how this is occurring. In addition, the system of charges needs reform; the current rate of 85 cents per 1,000 gallons is insufficient to cover operating costs and do nothing to meet capital and depreciation costs.

Many of these issues are not peculiar to water supply problems as such but

## URBAN DEVELOPMENT ISSUES

relate to broader concerns about the ability of the government in a small developing country to manage an important public utility competently. Under circumstances in which local skills are in such short supply, solutions extend to systemic questions about the pros and cons of corporatization or even privatization.

### *Sewerage and Solid Waste*

Only Koror has a central reticulated sewer system containing the usual array of gravity collector sewers, sewer force mains, and lift stations. Effluent from 1,600 domestic, commercial, and governmental connections is treated at the Malakal Plant and discharged down a 2,000-foot outfall pipe into Malakal Harbor. Several parts of Koror are not linked to the sewer system (Echang, lower Ngermid, lower Ngerkesoal, Ngerias, Diberdii, Ngesaol, and commercial areas in Malakal and M-Dock), amounting to 126 households and twelve commercial premises (SAGRIC International 1996, 6-62). It is clear from Palau Environmental Quality Protection Board studies and other reports that coastal waters have been contaminated near these areas and that wastewater flows to the Malakal treatment plant regularly exceed the plant's capacity. The plant was designed for secondary treatment but has been operating only in a primary capacity and producing poor quality effluent. The problems with the system are well understood and have been the subject of detailed study and a twenty-five-year development plan (Parsons Overseas Company 1993; 1994). Among the recommendations are the expansion of the Koror sewer collection system and Malakal plant at a cost of over \$6 million, upgrade of the pump stations, and establishment of a new workshop.

Waste management in Palau has also been the subject of detailed study (TTPIEPB 1985), but poor practices persist because few if any of the recommendations have been implemented (SAGRIC International 1996). Although more than a decade ago suggestions were made regarding community education programs, dump management, collection procedures, disposal of hazardous waste, and legislative requirements, serious pollution in the urban area continues:

In the concentrated population area of Koror-Airai, solid waste from

## PUBLIC UTILITIES

households and businesses is generally placed in 55 gallon oil drums by the roadside. With no lids, vermin and other animals have access to the garbage. The collection service is provided by the State of Koror using Isuzu Compactor-Garbage Trucks, although due to difficulty with procurement of spare parts two of the four trucks have been out of service for more than 2 years. Regular small pick-up trucks are utilized as replacement collection vehicles. The laborers are prisoners who have been sentenced to community service. The State does not impose charges on households for the collection service. (SAGRIC International 1996, 6-66)

The fifteen-acre main dump is located at M-Dock over a reef flat and close to an important tourist hotel. An alternative site is urgently required because little capacity remains and uncontrolled pollution of harbor waters occurs at the dump face. More generally across the urban area, there is widespread evidence of littering and metal scrap is found everywhere. These are symptoms, in part, of the small size of the local economy and the limited opportunities to make economic use of recycled materials. They are also, however, evidence of the need for public education of the kind recommended more than ten years ago. The Palau Environmental Quality Protection Board will lose much of its current funding under the Compact arrangements and thus will require strengthening to assist in the process of increasing environmental awareness. In the words of the *Palau National Master Development Plan*, "Unsustainable development is often pursued out of ignorance rather than unscrupulous attitudes" (SAGRIC International 1996, 12-11).

### **Power and Energy Supply**

Of all the public utilities in Micronesia, electricity has been the most readily corporatized and is generally the most efficiently run. However, parts of the region are among the highest consumers of electrical energy in the central Pacific and its production by means of high quality diesel fuel makes it an expensive sector of each national economy. Corporatization of electricity supply in Palau, most of the Federated States of Micronesia, and the Marshall Islands has brought a reliable service, but has removed most of the former government subsidy to consumers, with some startling results. Consumer charges are now linked to the



## URBAN DEVELOPMENT ISSUES

price of diesel fuel and subject to unpredictable and usually upward variations. In Palau, late in 1995, the Public Utilities Corporation attempted to impose a large retroactive increase only to be served with a lawsuit by the government because it failed to have the change approved by the *Olbiil Era Kelulau* (Parliament). In the Federated States of Micronesia, the Pohnpei Utility Corporation (PUC) successfully increased charges by some 300 percent, with the greatest rise being imposed on small consumers using 50–1,000 kilowatt-hours per month. The 1996 rates were based on a fuel cost of 75 cents a gallon but the actual cost of fuel in the first half of the year rose to 89 cents. This is considerably more than the cost forecast for 1998 and certain to go up further. A recent PUC tariff study is reported in the press to have found that 90 percent of residential customers consume 850 kilowatt-hours or less per month: “When queried about why PUC plans to place the biggest burden on the shoulders of those least able to carry it, PUC replied that it was part of a trickle down theory. That is, if costs are reduced to the big users and traders, then their costs would be reflected in lower prices for the local consumers” (*FSM News*, February 1996).

Alternative “theories” suggest other motives for this differential treatment. Some advantages are thought likely to accrue to Pohnpei in keeping rates low for the large consumers; for instance, it may encourage outside investment. Also, the point will be reached at some stage for the largest customers when it may prove attractive to install individually owned power generators rather than purchasing PUC supplies. Nonetheless, the Corporation managed to increase its customer base from 2,800 in early 1993 to about 4,000 in 1996, representing an annual growth of 13 percent, as well as greatly improving reliability.

### **Problems and Issues**

The biggest problem with energy supplies in Micronesia can be described in a single phrase—difficulties surrounding “user pays.” This issue can be best illustrated by the case of Palau where the current rate charged by the Public Utility Corporation (9 cents per kilowatt-hour for a consumption of up to 2,000 kilowatt-hours per month) represents a large loss over the actual costs of production. Figures for 1992 show an effective subsidy by the government of the

## PUBLIC UTILITIES

order of \$7.6 million per year (SAGRIC International 1996). Indeed, electrical power supply in Palau has been a sensitive issue since the debt incurred in the IPSECO affair of the 1980s. In 1983 the Palau government borrowed \$32.5 million from British banks to pay for the construction of a new power plant by IPSECO (International Power Systems Company Limited). Less than two years later Palau defaulted on the loan (Kluge 1991, 217). Since the creation of the Public Utilities Corporation in 1994, attempts have been made to introduce full metering (now 80 percent) but this has not yet extended to the government's own offices. A regional energy assessment has found that Palau's low pricing strategy has led to per capita consumption that is the highest of any Pacific Island nation and four times that of the Federated States of Micronesia (Pacific Regional Energy Assessment nd, cited in SAGRIC International 1996, 6-49).

Although there are a number of recent, comprehensive reports on the development of electric power in Micronesia (see Knight, Piesold, and Partners and SECV 1994), there are few examples of behavioral research to indicate the impact of electricity supply and the range of popular responses to options that might be available. It is evident, for example, that popular support is needed for utility companies wishing to extend distribution networks where some land acquisition may be necessary. At least in the case of urban Tarawa there is widespread support for the extension of the electricity system and some evidence of willingness to pay (Atoll Research Programme 1996). Problems experienced by Pohnpei's Public Utilities Corporation in securing and enforcing easements for power lines and other infrastructure have led to suggestions that a special land use category will be needed (General Manager, PUC, Kolonia, June 1996, personal communication). Little research has been undertaken into the effects of electrification on local customs and lifestyles but anecdotal evidence suggests that the extension of the power grid in Pohnpei around the island perimeter road since 1989 has led to changes in popular culture. The advent of refrigeration, for example, gives a household the ability to keep its fish for individual use rather than distributing a larger-than-needed catch among others for immediate consumption. This effect is not proven but could suggest that electrification provides

## URBAN DEVELOPMENT ISSUES

an additional means of weakening the influence of the extended family.

A study by Rizer (1985) examined aspects of household expenditure and energy use in Pohnpei a decade ago when electricity use was not as widespread and identified several notable policy questions. Among the issues were:

### *The community's view of priority needs and its role in determining those needs*

The questionnaire survey of households in the greater Kolonia area showed that other infrastructure (water, sewerage, and roads) were generally considered higher priority than electric power. The findings raise the general question of how much input by residents is allowed in government decision making about infrastructure investments.

### *Education in the use of electricity*

Findings here suggested that most emphasis was given to supply considerations, with the result that there was considerable ignorance among ordinary households about the use of electricity.

### *Tariff rates*

A decade ago the low usage of electricity by the population (only 25 percent had access) meant that a small number of higher income consumers were being greatly subsidized by the population at large and that tariffs should be raised. Today both household charges and the number of connections have risen, and the argument has shifted to suggest that the majority of lower-income small consumers are subsidizing the large electricity users.

### *Desirability of changing electricity consumption patterns*

Few conservation or renewable energy strategies were evident in Pohnpei in the mid-1980s, and it was suggested that an implementation program was necessary to educate people on the wise use of electricity. Ten years later the picture in the Federated States of Micronesia has changed little, apart from the increasing use of minihydro projects in Pohnpei. But the effect of sharply rising tariffs is more likely to encourage savings through a change in consumption patterns.

### **Involving the Community**

Our report on urbanization in Polynesia noted that “a conventional, top-down, way of providing urban infrastructure services usually employed in developing countries provides high standards at considerable cost” (Connell and Lea 1995, 133). This holds just as true for the countries of Micronesia, which have become used to high-cost and capital intensive forms of urban infrastructure provision after years of colonial dependency. In most of Micronesia (apart, perhaps, from Kiribati) it also seems to have been generally true that there are few opportunities for community participation in decisions about environmental and other urban services. The FSM second development plan, for example, makes a surprising admission that “grid extensions into surrounding areas of state centers are planned or have taken place together with improved access and round-island roads. However, the decisions to provide electricity to an area are made with little or no community input” (FSMOPS 1992, 211).

International evidence makes it increasingly clear that community support is an essential part of basic service provision for the urban poor. This support encompasses participation in infrastructure planning as well as involvement in provision and services in appropriate circumstances. The World Bank has come up with a list of conditions that must be present for successful adoption of community-based projects (Briscoe and Ferranti 1988) and other authorities have documented the chief policy and planning issues after extensive case study experience in several developing countries (Cotton and Franceys 1994). In Micronesia, local circumstances have seen the establishment of many government departments, agencies, and corporations with responsibilities over essential infrastructure services. But the small urban populations so far have not spawned much in the way of nongovernmental community-based organizations that might fulfill a participatory role in planning for urban services (important exceptions in Palau are the Organization for Industrial Spiritual and Cultural Advancement and the Palau Resource Institute). In the South Pacific this role is exemplified in the work of the South Pacific Committee for Human Ecology and Environment (SPACHEE) in Fiji, the O Le Siosiomaga Society in Western Samoa, and the Solomon Islands Development Trust in the Solomon Islands.

## URBAN DEVELOPMENT ISSUES

Nongovernmental organizations in general are increasingly seen as essential catalysts for promoting community-based environmental management in the larger countries of Asia and the Pacific (Lee 1994); fostering their presence in Micronesia is likely to be a major task as urbanization takes hold in the region. It is particularly important to gain an understanding of the coping strategies employed by the urban lower-income groups and to devise ways of maximizing local "ownership" of policies (World Bank 1995a, 1995b). At least in the case of South Tarawa, many urban residents are unsure about the role of particular organizations in service delivery and maintenance, and how they might contribute to superior service provision and urban management (Atoll Research Programme 1996). Urban local government is not well developed in the small Micronesian capitals and appears at present to be little involved with environmental services other than garbage collection and disposal. This tier of government is best placed to ascertain the totality of local needs and should work closely with nongovernmental organizations and the central government bodies to deal with "brown agenda" issues, especially waste disposal and management (Stren 1994). Micronesian governments have yet to educate their urban citizens about the communal requirements for adequate public utilities and have done little as yet to consult with or even inform them about the options that might be available.

## Toward Sustainable Urban Development

Without a much greater understanding of the needs and problems of urban residents, and especially the poor, urban planning and services delivery are likely to remain inadequate. As urban areas grow such inadequacies will become more visible, more costly and less amenable to solution.

Connell and Lea, *Urbanisation in Polynesia*

SUSTAINABILITY IS A strange term—it is much easier to declare what it is *not* than what it *is*. With regard to urbanization in Micronesia, the notion of sustainability is best thought of as a “guiding fiction” as applied by Shumway in his history of Argentina (1991), enabling the present condition of the towns to be appraised in terms of their long-term prospects. In most of the Third World there is no shortage of technical advice about overcoming deficiencies in urban management and delivery of basic urban services. This is certainly true of Micronesia (especially in the Compact countries) where the shelves of government departments are filled with expensive and detailed reports on most important aspects of infrastructure provision. Many of these date well back into the era of American administration, while Larmour’s (1982) report on urban management in Tarawa is now fifteen years old. This situation is neither new nor uncommon in much of the developing world and underlines the truism that the success of measures designed to overcome physical problems of rapid urbanization in poor developing countries depends ultimately on the quality and performance of the institutions responsible for carrying them out (World Bank 1983). Indeed many of these plans are excellent, thoughtful documents of real relevance to local needs, but they have not found enough support and interest to ensure that they can be implemented. Urban development in Micronesia has arrived at the stage where implementation and the means of carrying out appropriate and approved recommendations are the chief regional priorities. Significantly these are now going ahead in Kiribati more effectively than anywhere else in the region, and the experiences of management in South Tarawa suggest a number of ideas for the

## URBAN DEVELOPMENT ISSUES

future of all Micronesian towns.

Urbanization in Micronesia has many common themes: none of the countries has implemented land-use plans or provisions for urban management (other than what is now emerging in South Tarawa and Kolonia); issues affecting urban development are pursued in several different departments (among which there are often conflicts and uncertainties over the division of responsibility); costs of providing services (especially water and power) are high; and piecemeal development is normal (raising the costs of, and the pollution caused by, intra-urban mobility). Indeed only rarely is it clear where urban boundaries lie. There is no integration of physical, economic, and environmental planning—and only recent interest in the last of these—despite worsening urban social, economic, and environmental conditions. To some extent this is a function of the absence of urban authorities, or limitations of their powers. Less obviously it relates to the absence of skilled human resources and to the already substantial costs of the urban bureaucracy.

Because of growing urban populations and dwelling densities there is enormous pressure on scarce land and other resources, including water and building materials. Demand for sand and gravel has posed new problems in the towns: aggregate extraction is not sustainable because there is no natural way replenishment can take place. In Majuro this is particularly the case, since the linking of islets that now form the urban area has effectively isolated aggregate deposits from their sediment sources. Consequently, “mining is detrimental to future immediate development by virtue of it occurring right at the shoreline. Mounting social pressures for additional land space, requiring further reclamation of the shoreline, would require that the volume of material taken previously be replaced. . . . Near shore aggregate mining may be contributing to the coastal erosion problems experienced in Djarrit [Darrit], Uliga and Dalap” (Smith 1995)

These new problems are concentrated in the urban areas. Similarly it is in the urban areas that visual amenity has worsened through inadequate housing, minimal traffic management, unsightly waste disposal, and the lack of recycling. Coral reefs adjacent to the towns are often degraded, depleting the populations of reef and lagoon fish feeding on them. It is crucial to protect important lagoon and reef

## TOWARD SUSTAINABLE URBAN DEVELOPMENT

resources and sometimes limited land areas. The reefs provide much of the food, shore protection, recreational enjoyment, habitat for rare species, cultural tradition, and future economic potential to islanders. In addition, the reefs facilitate land reclamation, construction of protective structures, and production of quarry materials for urban centers. Reef and lagoon resources are finite and can easily be damaged or destroyed by urban-based activities of all kinds. The incidence of ciguatera (fish poisoning) may also be related to disturbances in the reef ecosystem. In each country there is now valuable environmental legislation, but enforcement has rarely proved possible. Adequate environmental management is hindered by problems of coordination and communication between government departments, and the frequent lack of political will to make sometimes difficult decisions.

In several urban centers there are active programs of land reclamation from the sea and the lagoons. These programs are themselves evidence of the problems of urban development in terms of absolute land shortages and also indicate the way in which reclaiming land enables governments to avoid even more difficult problems attached to land tenure. As many consultants, politicians, academics, and citizens have observed on previous occasions, it is increasingly necessary for governments to tackle land tenure issues, especially in urban areas. But the time to tackle this problem has now arrived.

Urban trends of growing unemployment, environmental mismanagement, and social conflict are as unwelcome in Micronesia as they are in any part of the world. But there is very little good information on the urban world; data are not always differentiated by urban and rural divisions; and some of it, such as that relating to unemployment, incomes, and poverty, is either nonexistent or extremely difficult to assess. Without adequate information about socioeconomic and environmental changes in urban areas, the tasks for policy formation are made more difficult, especially where bureaucracies are small and there are many other pressing matters of national and international significance.

Among the many issues discussed here, four major underlying factors impinge on the ability of Micronesian governments to manage the course of urbanization in the region, paralleling the situation throughout the island Pacific:



## URBAN DEVELOPMENT ISSUES

first, the continuing significance of customary land tenure in and surrounding the main settlements; second, the problem of creating a viable subnational level of the government to take over responsibility for urban affairs; third, difficulties in achieving equity in the improvement of urban services; and fourth, the need to integrate the management and delivery of urban services in the context of an urban plan (Connell and Lea 1995).

Every one of these factors is closely related to the traditional nature of Micronesian society and the structure of local divisions within it. They help to explain why it has been so difficult in the region to adopt standard statutory planning and institutional models that have been accepted (though not always put into practice) in neighboring Melanesia. In many instances it is not possible to talk realistically about technical solutions to urban service problems because the preconditions for orderly urban management are not present. Improvements are impossible under the ad hoc mechanisms, but too little attention has been paid to implementation.

The question of equity applies to many facets of government policy but is seen most obviously in the lack of amenities in some parts of the towns. Micronesian towns do not exhibit the major physical differences between the rich and poor suburbs that exist in many other cities in the world. Indeed, this has been greatly to their advantage in the past and contrasts with conditions in some of the Melanesian capitals. However, attempts to restructure the provision of some basic services like water supplies, power, and sewerage are based on notions of more effective cost recovery. Early experience of this change suggests that most urban residents are unlikely to welcome the imposition of new charges for basic services unless they are convinced the burden of paying for them is shared equitably and justified by the improvements made. While this attitude is understandable, the fact that there are few or no direct ways in most towns for urban residents to express their wishes and participate in the urban decision-making process makes equity difficult to achieve. Indeed there is no active process of consultation in most Micronesian societies, especially in relation to new development proposals. Equally, while there is concern for equity in most "western" considerations of development planning and especially in the delivery of urban

## TOWARD SUSTAINABLE URBAN DEVELOPMENT

services, such concerns are not always apparent in Micronesia.

The absence of a recognizable urban constituency, an urban political culture, and an informed population has done much to prevent popular debate and participation in any facet of planning. Any attempt to modernize the Micronesian towns through the establishment of urban governance and planning must come to terms with land tenure realities. This in turn closely relates to the basis of traditional power and the way in which it is exercised in Micronesia. Attempts to remove control of land from traditional authority and place it in the hands of the elected officials and civil service through land-use planning or environmental legislation are not very effective, because the government and the bureaucracy are also dominated by tradition. Similarly, land tenure lies at the heart of planning issues and there is considerable reluctance to reform tenure systems. Much of the difficulty surrounding land development and planning concerns the inter-relationship between tradition and modernity represented in limited approaches toward the control of land use.

The most difficult urban development problems are not technical (though these may be very expensive to overcome, especially in atoll environments) but political and institutional matters. These are often avoided simply because they are so difficult to confront. The debate about customary land throughout the Pacific is one such example, and it is well recognized in the development literature that the achievement of better housing and improved services is largely dependent on resolution of urban land issues. Land is at the very core of Micronesian culture and political systems; tackling the "modernization" of land tenure thus far has flown in the face of too many traditional institutions and values and has met with inevitable paralysis of the political will. Nonetheless, the process of land registration is more advanced in Micronesia than in most of the rest of the Pacific, apart from Fiji, and there is a long history of colonial expropriation of land in the region. Although this has accustomed many island communities to the need for reconciling tradition with modern requirements, it has not resolved the accompanying difficulties.

Development in Micronesia is now generally shaped in the context of a primarily American free enterprise system (with little guidance or direction)

## URBAN DEVELOPMENT ISSUES

combined with an overdeveloped legal system. In this particular framework priority is usually given to short-term goals when decisions are made. Only in Kiribati have questions about the future of national economic development been confronted directly, and there alone is there a recognition of constraints to development that will be hard to surmount (Tabai 1987). Therefore development aspirations in Kiribati are more realistic than elsewhere in the region.

There has been considerable social change in Micronesia, especially in the urban areas, with a trend toward smaller families and some weakening of traditional authority and social control. New forms of education and employment, television, and international migration have all influenced the changing balance between "tradition" and "modernity." Suicide has reached high levels in the Federated States of Micronesia and Marshall Islands (though that rate has not increased in the past decade), and crime and alcoholism have posed problems in situations where there are few welfare provisions or effective nongovernmental organizations to cope with these developments. Urban economic improvements have failed to keep pace with the rate of urbanization, slight though it now is, so that social problems have multiplied. With a future of declining external aid, there is little indication that urban or national economic development will be assured. Yet, as the failure to meet basic needs among a high proportion of the urban population indicates, the time for change is now overdue.

## References

Alkire, William H

1978 *Coral Islanders*. Arlington Heights, IL: AHM Publishing.

1993 Madrich: Outer Islanders on Yap. *Pacific Studies* 16: 31–66.

Atoll Research Programme

1996 *Community Environment Survey: Results of a Survey Conducted in Betio, Bairiki, Bikenibeu, South Tarawa, Kiribati*. Bairiki: Atoll Research Programme, University of the South Pacific.

Bailey, Eric

1984 Population Distribution and Migration. In *Report of the 1978 Census of Kiribati* 3: 25–42. Tarawa: Government of Kiribati.

Ballendorf, Dirk Anthony

1991 Money, Action, and Thinking: Development Planning in Reverse Sequence in Micronesia. Paper presented at session on Regional Planning and Coastal Management, 17th Pacific Science Congress, Honolulu, Hawai'i, 27 May to 2 June.

Bank of Hawaii

1995 *Federated States of Micronesia Economic Report*. Honolulu: Bank of Hawaii Economics Department.

1996 *Republic of the Marshall Islands Economic Report*. Honolulu: Bank of Hawaii Economics Department.

Barnabas, Seberiano, and Francis X Hezel

1994 The Changing Pohnpeian Family. *Journal of the Pacific Society* 17 (2 & 3): 15–26.

Bedford, Richard D

1968 *Urban Tarawa: Some Problems and Prospects*. Auckland: University of Auckland, Department of Geography.

Bedford, Richard D, and Barrie Macdonald

#### REFERENCES

- 1983 The Population of Kiribati: An Historical Introduction. In *Report on the 1978 Census of Kiribati* 2: 23–58. Tarawa: Government of Kiribati.
- Boucher, Raymond J  
1971 Field Trip. *Micronesian Reporter* 19 (3): 23–35.
- Briscoe, John, and David de Ferranti  
1988 *Water for Rural Communities: Helping People to Help Themselves*. Washington, DC: World Bank.
- Chollerton, Chris  
1990 FSM Housing Sector Study. Report to the Government of the Federated States of Micronesia.
- Chung, Margaret  
1994 *Towards a Settlement Strategy for South Tarawa, Kiribati*. Apia: SPREP.
- Clarke, George  
1993 *Life and Living in Tuvalu*. 2 volumes. Sydney: Australian International Development Assistance Bureau Pacific Regional Team.
- Connell, John  
1973 Pacific Urbanization: The Exceptional Case of Tarawa Atoll. *Geographical Review* 65 (3): 402–404.
- 1983a *Migration, Employment and Development in the South Pacific, Country Report 3, Federated States of Micronesia*. Noumea: South Pacific Commission.
- 1983b *Migration, Employment and Development in the South Pacific, Country Report 7, Kiribati*. Noumea: South Pacific Commission.
- 1983c *Migration, Employment and Development in the South Pacific, Country Report 8, Marshall Islands*. Noumea: South Pacific Commission.
- 1983d *Migration, Employment and Development in the South Pacific, Country Report 13, Palau*. Noumea: South Pacific Commission.
- 1983e *Contract Labour, Equity and Migration in Kiribati*. Noumea: South Pacific Commission.

## REFERENCES

- 1991a The New Micronesia: Pitfalls and Problems of Dependent Development. *Pacific Studies* 14: 87–120.
- 1991b Subsistence Agriculture and Fisheries in the Federated States of Micronesia. Unpublished report to Forum Secretariat.
- 1992 'The Backdoor of Bureaucracy': Employment and Development in Yap State and Woleai Atoll, Federated States of Micronesia. In *Public Administration in Small Island States*, edited by R Baker, 174–192. West Hertford: Kumarian Press.
- 1995 The Islands of Micronesia: The Challenge to Economic Development. In *Pacific Island Countries: Selected Issues in Development Policy and Subregional Cooperation in the 1990s*, edited by the Economic and Social Commission for Asia and the Pacific, 50–79. New York: United Nations.
- Connell, John, and John P Lea
- 1992 "My Country Will Not be There": Global Warming, Development, and the Planning Response in Small Island States. *Cities* 9 (4): 295–309.
- 1993 *Challenging the Future: Melanesian Cities in 2010*. Pacific Policy Paper 11. Canberra: National Centre for Development Studies, Australian National University.
- 1995 *Urbanisation in Polynesia*. Pacific Policy Paper 14. Canberra: National Centre for Development Studies, Australian National University.
- Connell, John, and Matakite Maata
- 1992 *Environmental Planning, Climate Change and Potential Sea Level Rise: Report on a Mission to the Republic of the Marshall Islands*. Report 55. Apia: SPREP.
- Cotton, Andrew, and Richard Franceys
- 1994 Infrastructure for the Urban Poor: Policy and Planning Issues. *Cities* 11 (1): 15–25.
- Crocombe, Ron, editor
- 1987a *Land Tenure in the Pacific*. 3rd edition. Suva: University of the

## REFERENCES

- South Pacific.
- 1987b *Land Tenure in the Atolls: Cook Islands, Kiribati, Marshall Islands, Tokelau, Tuvalu*. Suva: University of the South Pacific.
- De Beaclair, Inez
- 1974 Social Stratification in Micronesia: The Low-Caste People of Yap. In *Studies on Botel, Tobago and Yap*, 266–275. Taipei: The Orient Cultural Service.
- Detay, M, E Alessandrrello, P Come, and I Groom
- 1989 Groundwater Contamination and Pollution in Micronesia. *Journal of Hydrology* 112: 149–170.
- EDU International in association with GHK/MRM International
- 1992 *Western Samoa Housing Sector Study Final Report*. 3 volumes. Apia: Government of Western Samoa and Asian Development Bank.
- Ehrlich, Paul
- 1984 *Koror: A Center of Power, Commerce and Colonial Administration*. Report 11. Saipan: Micronesian Archaeological Survey.
- Emberson-Bain, 'Atu
- 1995 *Women in Development: Kiribati*. Manila: Asian Development Bank.
- Emory, Kenneth P
- 1965 *Kapingamarangi: Social and Religious Life on a Polynesian Atoll*. Bulletin 228. Honolulu: Bernice P Bishop Museum Press.
- EMPAT (Economic Management Policy Advisory Team)
- 1996 *Economic Use of Land in the Federated States of Micronesia: A Review and Description of Land Tenure Systems in the FSM*. Draft Report. Palikir: Economic Management Policy Advisory Team.
- Evans, Julian
- 1992 *Transit of Venus*. London: Minerva.
- Firth, Stewart
- 1978 German Labour Policy in Nauru and Anguar, 1906–1914. *Journal of Pacific History* 13 (1): 36–52.
- Fleming, Euan, and J Brian Hardaker
- 1996 *Strategies for Polynesian Agricultural Development*. Pacific Policy

## REFERENCES

- Paper 15. Canberra: National Centre for Development Studies,  
Australian National University.
- Flinn, Juliana
- 1990 We Still Have Our Customs: Being Pulapese in Truk. In *Cultural Identity and Ethnicity in the Pacific*, edited by Jocelyn Linnekin and Lin Poyer, 103–126. Honolulu: University of Hawai'i Press.
- Force, Roland
- 1960 *Leadership and Cultural Change in Palau*. Fieldiana Anthropology, 50. Chicago: Chicago Natural History Museum.
- Fox, Morris G
- 1976 *Social Welfare Services and Development Planning in the Pacific Islands*. Technical Paper 173. Noumea: South Pacific Commission.
- FSM (Federated States of Micronesia)
- 1993a Country paper for Federated States of Micronesia, World Bank Pacific Island Transport and Urban Environmental Seminar, East-West Center, Honolulu, Hawai'i, 24–27 August.
- 1993b *National Environmental Management Strategy*. Apia: SPREP.
- FSMOPS (Federated States of Micronesia Office of Planning and Statistics)
- 1992 *Federated States of Micronesia Second National Development Plan 1992–1996*. Palikir: Government of FSM.
- 1996 *National Census Report 1994 FSM Census of Population and Housing*. Palikir: National Government of FSM.
- Gawel, Michael J
- 1993 *The Federated States of Micronesia: State of the Environment Report*. Apia: SPREP.
- Geddes, William H, Anne Chambers, Betsy Sewell, Roger Lawrence, and Ray Watters
- 1982 *Islands on the Line: Team Reports*. Atoll Economy no 1. Canberra: Australian National University Development Studies Centre.
- Glimpses*
- 1961–1992 Quarterly. Agana, Guam.
- Gorenflo, Larry J, and Michael J Levin



## REFERENCES

- 1995 Changing Migration Patterns in the Federated States of Micronesia. *Isla* 3: 29–71.
- Harding, Elizabeth
- 1992 *Review of Environmental Law: Strengthening Environment Management Capabilities in Pacific Island Developing Countries*. Apia: SPREP.
- Hezel, Francis X
- 1976 The Micronesian Dilemma. *Journal de la Société des Océanistes* 50: 110–112.
- 1979 The New Formula for Self-Reliance. *Marianas Variety*, 5 July, 7.
- 1983 *The First Taint of Civilization: A History of the Caroline and Marshall Islands in Pre-Colonial Days, 1521–1885*. Honolulu: University of Hawai'i Press.
- 1985 Sale of Land. *Justice Issues in Micronesia*. No. 1. Pohnpei, FSM.
- 1994 Land Issues in Chuuk. *The Micronesian Counselor*. Occasional Paper 16. Pohnpei: Micronesian Seminar.
- Hezel, Francis X, and Michael J Levin
- 1990 Micronesian Emigration: Beyond the Brain Drain. In *Migration and Development in the South Pacific*, edited by John Connell, 42–60. Canberra: National Centre for Development Studies.
- 1996 New Trends in Micronesian Migration: FSM Migration to Guam and the Marianas, 1990–1993. *Pacific Studies* 19: 91–114.
- Hezel, Francis X, and Thomas B McGrath
- 1989 The Great Flight Northward: FSM Migration to Guam and the Northern Mariana Islands. *Pacific Studies* 13: 47–64.
- Hughes, Daniel T
- 1982 Continuity of Indigenous Ponapean Social Structure and Stratification. *Oceania* 53 (1): 5–18.
- Hughes, Tony
- 1973 What is Development? *Pacific Perspective* 1 (2): 221–239.
- Hunt, Edward E, Nathaniel R Kidder, and David M Schneider
- 1954 The Depopulation of Yap. *Human Biology* 26: 21–51.

## REFERENCES

Johnson, Giff

- 1990 Ebeye: From Pacific Slum to Isle Showcase. *Pacific* 15 January, 30–50.

Jones, Paul

- 1994 *Urban Management in South Tarawa Republic of Kiribati*. Proceedings of a one-day workshop held at Otintai Hotel, South Tarawa, 23 September. Bairiki: Ministry of Home Affairs and Rural Development.
- 1995 *Responding to Urban Change: Observations on Urbanisation, Urban Planning and Urban Management in the Pacific*. Bairiki: Government of Kiribati Printer.
- 1996 Institutional Strengthening of the Lands and Survey Division, Ministry of Home Affairs and Rural Development, Republic of Kiribati. Report. Canberra: AusAID.

KHC (Kiribati Housing Corporation)

- 1996 *The State of Shelter in South Tarawa*. South Tarawa: KHC.

Kiste, Robert C

- 1968 *Kili Island: A Study of the Relocation of the Ex-Bikini Marshallese*. Eugene: University of Oregon Department of Anthropology.
- 1974 *The Bikinians: A Study in Forced Migration*. Menlo Park, CA: Cummings.
- 1977 The Relocation of the Bikini Marshallese. In *Exiles and Migrants in Oceania*, edited by M D Lieber, 81–120. Honolulu: University Press of Hawai'i.
- 1985 Identity and Relocation: The Bikini Case. In *Mobility and Identity in the Island Pacific*, edited by Murray Chapman. Special issue of *Pacific Viewpoint* 26:116–138.

Kluge, Paul F

- 1991 *The Edge of Paradise: America in Micronesia*. Honolulu: University of Hawai'i Press.

KMHARD (Kiribati Ministry of Home Affairs and Rural Development)

- 1993 *Challenging the Future: Towards Development Standards for Land*,

#### REFERENCES

- Housing, Water, Sewage and Waste in South Tarawa*. Bairiki: Ministry of Home Affairs and Rural Development.
- 1995 *Urban Management Plan for South Tarawa, Republic of Kiribati*. Bairiki: Government of Kiribati Printer.
- Knight, Piesold, and Partners and SECV
- 1994 *Power Sector Development Study*. Palikir: Asian Development Bank and Government of Federated States of Micronesia.
- KNPO (Kiribati National Planning Office)
- 1992 *Kiribati Seventh National Development Plan 1992–1995*. Bairiki: Government of Kiribati.
- KSO (Kiribati Statistics Office)
- 1993 *Report on the 1990 Census of Population*. Tarawa: Kiribati Statistics Office.
- Labby, David
- 1976 *The Demystification of Yap*. Chicago and London: University of Chicago Press.
- Larmour, Peter
- 1982 *Report on Urban Management in South Tarawa, Kiribati*. Suva: United Nations Development Advisory Team.
- Lawrence, Roger
- 1992 *Tamana Fifteen Years On: A Survey of Changes in the Household Economy Since 1974*. Wellington: Department of Geography, Victoria University.
- Lee, Yok Shiu
- 1994 Community-based Urban Environmental Management: Local NGOs as Catalysts. *Regional Development Dialogue* 15 (2): 158–176.
- Lessa, William A
- 1964 The Social Effects of Typhoon Ophelia (1960) on Ulithi. *Micronesica* 11 (1 & 2): 1–47.
- Lessa, William A, and George C Myers
- 1962 Population Dynamics of an Atoll Community. *Population Studies* 15 (3): 244–257.

## REFERENCES

Levin, Michael

- 1976 Eauripik Population Structure. PhD thesis, University of Michigan.

Lieber, Michael D

- 1968 *Porakiet: A Kapingamarangi Colony on Ponape*. Eugene: University of Oregon Department of Anthropology.

Lingenfelter, Sherwood

- 1975 *Yap: Political Leadership and Cultural Change in an Island Society*. Honolulu: University of Hawai'i Press.

Love, Ralph S

- 1982 Basic Needs in Kiribati. *Pacific Perspective* 10 (2): 66–74.  
1983 The People and the Economy. In *Report on the 1978 Census of Population and Housing* 2:143–231. Tarawa: Government of Kiribati.

Lundsgaarde, Henry P

- 1974 Evolution of Tenure Principles on Tamana. In *Land Tenure in Oceania*, edited by Henry P Lundsgaarde, 179–214. Honolulu: University of Hawai'i Press.

Macrae, Sheila

- 1983 Fertility. In *Report of the 1978 Census of Population and Housing*, 2:107–123. Tarawa: Kiribati Ministry of Home Affairs and Decentralisation.

Malcomson, Scott L

- 1990 *Tuturani*. London: Hamish Hamilton.

Marcus, George

- 1981 Power on the Extreme Periphery: The Perspective of Tongan Elites in the Modern World System. *Pacific Viewpoint* 22:48–64.

Marshall, Mac

- 1976 The Effects of Typhoon Pamela on the Mortlock Islands of Truk District. *Micronesian Reporter* 24 (3): 30–39.  
1994 Social Isolation, Cultural Competence, and Disability in the Carolines. *The Micronesian Counselor*, Occasional Paper 13. Pohnpei: Micronesian Seminar.

## REFERENCES

- 1996 Chon Guamoluk: Namoluk People on Guam, 1995. In *Micronesian Migration Since World War II*, edited by Jay Dobbin and Francis X Hezel. *The Micronesian Counselor*, 2(2): 33–36. Pohnpei: Micronesian Seminar.
- Marshall Islands Journal*
- 1970– Weekly. Majuro.
- Mason, Leonard
- 1954 Relocation of the Bikini Marshallese. PhD thesis, Yale University.
- McGrath, William A
- 1972 The Effects of Urban Drift in the Palau District of Micronesia. In *Change and Development in Rural Micronesia*, edited by Marion W Ward, 130–150. Canberra: Australian National University Press.
- McKnight, Robert K
- 1977 Commas in Microcosm: The Movement of Southwest Islanders to Palau, Micronesia. In *Exiles and Migrants in Oceania*, edited by Michael D. Lieber, 10–33. Honolulu: University of Hawai'i Press.
- Miles, Rosalie, Moneer Alam, and Tommie Larhed
- 1992 *Employment in Kiribati: Present and Potential*. Suva: International Labor Organization/United Nations Development Program.
- Milne, Simon
- 1991 The Economic Impact of Tourism in Kiribati. *Pacific Studies* 14: 53–70.
- MIOPS (Marshall Islands Office of Planning and Statistics)
- 1989 *Republic of the Marshall Islands Census of Population and Housing 1988: Final Report*. Majuro: Republic of the Marshall Islands.
- 1991 *Republic of the Marshall Islands Second Five Year Development Plan 1991/92–1995/96*. Majuro: Republic of the Marshall Islands.
- Nevin, David
- 1977 *The American Touch in Micronesia*. New York: Norton.
- Ogden, Michael R
- 1994 MIRAB and the Marshall Islands. *Isla* 2: 237–272.
- Oliver, Douglas L, editor

## REFERENCES

- 1951 *Planning Micronesia's Future*. Cambridge: Harvard University Press.
- Osborne, Douglas
- 1966 *The Archaeology of the Palau Islands: An Intensive Study*. Bulletin 230. Honolulu: Bernice P Bishop Museum Press.
- Pacific Regional Energy Assessment
- nd Palau: Issues and Options in the Energy Sector. Pacific Islands Series No. 1. In *Pacific Regional Energy Assessment*, volume 12.
- Palafox, Neal A
- 1991 Malnutrition in the Republic of Marshall Islands. Typescript. Majuro.
- Parsons Overseas Company
- 1993 *Republic of Palau Wastewater Facilities Plan Consisting of Koror Wastewater System Plan and Individual State Facilities Plans*. Honolulu: Parsons Overseas Company.
- 1994 *Republic of Palau Wastewater Facilities Plan, Part 2, April 1994*. Honolulu: Parsons Overseas Company.
- Peattie, Mark R
- 1988 *Nan'yō: The Rise and Fall of the Japanese in Micronesia, 1885–1945*. Honolulu: University of Hawai'i Press.
- Pitchford, John
- 1981 *Decentralisation in Kiribati*. Tarawa: Ministry of Home Affairs.
- Pitt, David C
- 1976 *The Social Dynamics of Development*. Oxford: Oxford University Press.
- Pollard, Steven
- 1994 *Commercial Profit or Community Gain? Business Culture in Micronesian Countries*. Canberra: Economics Division, Australian National University Research School of Pacific and Asian Studies.
- 1995 *The Culture of Successful Palauan Enterprise*. Pacific Islands Development Series, 8. Honolulu: East-West Center.
- Pollock, Nancy J
- 1972 Demographic Description of Namu Atoll, Marshall Islands. PhD thesis, Victoria University, Wellington.

## REFERENCES

- 1975 The Risks of Dietary Change: A Pacific Atoll Example. In *Maritime Adaptations of the Pacific*, edited by R W Casteel and G I Quimby, 255–264. The Hague: Mouton.
- 1996 Namu Atoll Revisited: A Follow-Up Study of 25 Years of Resource Use. *Atoll Research Bulletin* 441: 1–10.
- POPS (Palau Office of Planning and Statistics)
- 1987 *1986 Census on Population and Housing in the Republic of Palau (Belau)*. Koror: POPS.
- 1992 1991 Household Income and Expenditure Survey. Koror: Republic of Palau.
- Price, Willard
- 1966 *America's Paradise Lost*. New York: John Day.
- PSLUZMPTF (Pohnpei State Land Use and Zoning Master Plan Task Force)
- 1995 *Pohnpei State Land Use and Zoning Master Plan Working Draft*. Kolonia: Department of Land.
- Purcell, David C
- 1976 The Economics of Exploitation: the Japanese in the Mariana, Caroline and Marshall Islands, 1915–1940. *Journal of Pacific History* 11 (3): 189–211.
- Republic of Palau
- 1994 *Economic Development Plan*. Koror: Republic of Palau.
- Republic of the Marshall Islands
- 1982 Country statement to ESCAP Third Asian and Pacific Population Conference, Colombo.
- Ritter, Phillip L
- 1980 Kosraean circulation, Out-migration and Marriage. *Anthropological Forum* 4 (3 & 4): 352–374.
- 1981 The Population of Kosrae at Contact. *Micronesica* 17 (1 & 2): 11–28.
- Rizer, James P
- 1985 *Pohnpei: Household Income, Expenditure and the Role of Electricity*. Honolulu: East-West Center Pacific Islands Development

## REFERENCES

Program and Resource Systems Institute.

Robert R Nathan Associates

1966 *Economic Plan for Micronesia*. Washington.

1967 *Economic Development Plan for Micronesia: Summary and Index*. Washington.

Rubinstein, Donald H

1993 Movements in Micronesia: Post Compact (1987) Micronesian Migrants to Guam and Saipan. In *A World Perspective on Pacific Islander Migration*, edited by Grant McCall and John Connell, 259–263. Sydney: Centre for South Pacific Studies.

Rynkiewich, Michael A

1972a Land Tenure Among Arno Marshallese. PhD thesis, University of Minnesota.

1972b Demography and Social Structure on Arno Atoll. Paper presented at Conference on Atoll Population Structure, Honolulu, 17–21 December.

SAGRIC International

1996 *Palau National Master Development Plan, Revised Draft Final Report, The Foundation for Development, March 1996*. Adelaide: SAGRIC International and the Republic of Palau.

Sem, Graeme, and Yvonne Underhill

1994 *Implications of Climate Change and Sea Level Rise for the Republic of Palau*. Report 76. Apia: SPREP.

Shumway, Norman

1991 *The Invention of Argentina*. Berkeley: University of California Press.

Smith, DeVerne Reed

1996 The Palauans of Guam. In *Micronesian Migration Since World War II*, edited by Jay Dobbin and Francis X Hezel. *The Micronesian Counselor*, 2 (2): 6–20. Pohnpei: Micronesian Seminar.

Smith, R

1995 *Sand and Aggregate Resources. Majuro Atoll, Marshall Islands*. Technical Report 215. Suva: South Pacific Applied Geoscience



## REFERENCES

- Commission.
- SPC (South Pacific Commission)
- 1994 *Pacific Island Populations*. Noumea: SPC.
- SPREP (South Pacific Regional Environmental Programme)
- 1993 *The Federated States of Micronesia: Nationwide Environmental Management Strategies*. Apia: SPREP.
- 1994 *Kiribati: Nationwide Environmental Management Strategies*. Apia: SPREP.
- Stanley International Group
- 1995 *Water Supply and Sewerage Project Final Report, Vol. I, Main Report*. Kolonia: Pohnpei Utilities Corporation.
- Stephenson, Rebecca A, and Hiro Kurashina
- 1987 A Comparison of Two Micronesian Atoll Communities: Laura and Nama. In *Water, Land and People*, edited by Rebecca A Stephenson, 47–106. Agana: Micronesian Area Research Center, University of Guam.
- Stren, Richard
- 1994 Comment. *Regional Development Dialogue* 15 (2): 177–179.
- Tabai, Ieremaia
- 1987 The Right to Development. Paper presented at Evatt Foundation Conference on Human Rights in the South Pacific, Sydney.
- Topping, Donald
- 1981 Marshalls: Eager to Get It Over. *Pacific Islands Monthly* 52 (1): 13–15.
- Trumbull, Robert
- 1977 *Tin Roofs and Palm Trees. A Report on the New South Seas*. Canberra: Australian National University Press
- TTPI (Trust Territory of the Pacific Islands)
- 1981 *Majuro Development Plan*. Saipan: TTPI Office of Planning and Statistics.
- TTPIEPB (Trust Territory of the Pacific Islands Environmental Protection Board)

## REFERENCES

- 1985 *Solid/Hazardous Waste Management Plan*. Saipan: TTPIEPB.
- Turner, John F C
- 1976 *Housing by People*. London: Marion Boyars.
- Turner, John F C, and Robert Fichter
- 1972 *Freedom to Build*. New York: Collier Macmillan
- UNCHS and UNDP (United Nations Development Program)
- 1994 *Review of Human Settlements in Pacific Atoll Nations: Republic of the Marshall Islands, Republic of Kiribati, and Tuvalu*. Nairobi: UNCHS and UNDP.
- UNFPA (United Nations Fund for Population Activities)
- 1980 *Kiribati: Report of Mission on Needs Assessment*. New York: United Nations.
- US Department of Census
- 1991 *1990 Census of Population and Housing, Social, Economic and Housing Characteristics of Republic of Palau*. Washington, DC: Bureau of the Census.
- Vitarelli, William V
- 1967 *Operation Exodus: A Program for Controlling the Population of Ebeye*. Saipan: Trust Territory of the Pacific Islands.
- Watters, Ray with Kabiritaake Banibati
- 1977 *Abemama*. Atoll Economy no 5. Canberra: Australian National University Development Studies Centre.
- Weisgall, Jonathan M
- 1980 The Nuclear Nomads of Bikini Atoll. *Foreign Policy* 39: 74–98.
- Weital, Daro
- 1982 Population Issues of the Federated States of Micronesia. Paper presented at Economic and Social Commission for Asia and the Pacific, Third Asian and Pacific Population Conference, Colombo.
- Wiens, Herold Jacob
- 1962 *Atoll Environment and Ecology*. New Haven: Yale University Press.
- Wolff, Robert J, Rosemary Desanna, and Jean-Paul Chaine
- 1971 A Study of Knowledge, Attitude and Practice of Contraception in the

## REFERENCES

Trust Territory of the Pacific Islands. Honolulu: School of Public Health, University of Hawai'i.

### World Bank

- 1983 *Learning by Doing*. Washington, DC: World Bank.
- 1993a *Pacific Island Economies: Towards Efficient and Sustainable Growth*, volume 4: *Marshall Islands*. Washington, DC: World Bank.
- 1993b *Pacific Island Economies: Towards Efficient and Sustainable Growth*, volume 9: *Federated States of Micronesia*. Washington, DC: World Bank.
- 1994 *Health Priorities and Options in the World Bank's Pacific Member Countries*. Washington, DC: World Bank.
- 1995a *Managing Urban Environmental Sanitation Services in Selected Pacific Island Countries*. Washington, DC: Country Department 3, East Asia and Pacific Region, World Bank.
- 1995b *Papua New Guinea: Delivering Public Services*. Washington, DC: Country Department 3, East Asia and Pacific Region, World Bank.

### Previous Titles in This Series

- 1    Bieber, Patricia, translator  
    1973   *Considerations of the Rights of Spain over the Caroline Islands.*
- 2    Morris, Nancy Jane, Verna H F Young, Kehau Kahapea, and Velda Yamanaka, compilers  
    1974   *Bibliography of Hawaiian Language Materials at the University of Hawaii, Manoa Campus.*
- 3    Wiswell, Ella, translator  
    1974   *Chapters on Hawaii and the Marianas in V. M. Golovnin's Voyage Around the World.*
- 4    Turnbull, Phyllis  
    1974   *Pacific-Related Audiovisual Materials for Secondary Schools.*
- 5    Mason, Leonard, coordinator  
    1974   *Pacific Islands Workshop for College Librarians in Hawaii, April 1974.*
- 6    Polansky, Patricia  
    1974   *Russian Writings on the South Pacific: A Preliminary Edition.*
- 7    Mason, Leonard, coordinator  
    1974   *Pacific Islands Workshop for Secondary Librarians and Social Studies Teachers in Hawaii, June 13-14, 1974.*
- 8    Packard, Jerry C  
    1975   *The Bougainville Taro Blight.*
- 9    Coppel, William G  
    1975   *Bibliographies of the Kermadec Islands, Niue, Swains Island and the Tokelau Islands.*
- 10   Bruce, Lesley, Patricia Schattenburg, and Patricia Price Beggerly  
    1976   *Micronesian and Polynesian Voyaging: Three Readings.*
- 11   Coppel, William G  
    1977   *A World Catalogue of Theses and Dissertations Concerning the Education of the Peoples of the Pacific Islands (Including the New Zealand Maori).*

- 12    Fristoe, Ashby J  
      1977    *The Samoan Archives: An Annotated List of the Archival Material of the Various Governments of Western Samoa from the Middle of the Nineteenth Century to the First Quarter of the Twentieth Century.*
- 13    Hill, Harry Burnette  
      1978    *The Use of Nearshore Marine Life as a Food Resource by American Samoans.*
- 14    Hurd, Jane N, and Michiko Kodama, editors  
      1978    *Captain Cook and the Pacific Islands Studies Conference.*
- 15    Takeuchi, Floyd K  
      1979    *A Status Study of Commercial Cinema in the Pacific Islands.*
- 16    Hurd, Jane N, editor  
      1979    *The Emerging Pacific Island States: The Proceedings of the Fourth Annual Pacific Islands Studies Conference.*
- 17    Shuster, Donald R  
      1979    *Urbanization in the Pacific: A Tentative Survey.*
- 18    Herr, Richard A  
      1980    *Institutional Sources of Stress in Pacific Regionalism.*
- 19    Knudsen, Karen, editor  
      1981    *Hawaii and the Contemporary Pacific: The Proceedings of the Sixth Annual Pacific Islands Studies Conference, 1981.*
- 20    Oliver, Douglas  
      1981    *Aspects of Modernization in Bougainville, Papua New Guinea.*
- 21    Hezel, Francis X  
      1982    *Reflections on Micronesia: Collected Papers.*
- 22    Levine, Stephen  
      1983    *Pacific Power Maps: An Analysis of the Constitutions of Pacific Island Polities.*
- 23    Farrell, Bryan H, D Reid Ross, L Baird Evans, and D Weertz, compilers  
      1983    *Tourism in the Pacific: A Bibliography.*

- 24 Lynch, C J  
1984 *Traditional Leadership in the Constitution of the Marshall Islands.*
- 25 Hezel, Francis X, Donald H Rubinstein, and Geoffrey M White, editors  
1985 *Culture, Youth and Suicide in the Pacific: Papers from an East-West Center Conference.*
- 26 Premdas, Ralph R, and Jeffrey S Steeves  
1985 *The Solomon Islands: An Experiment in Decentralization.*
- 27 Kiste, Robert C, and Richard A Herr, editors  
1985 *The Pacific and the Year 2000: Seminar Papers.*
- 28 Knudsen, Karen, editor  
1985 *History of the Trust Territory of the Pacific Islands: Proceedings of the Ninth Annual Pacific Islands Conference.*
- 29 Dubsky, Roman  
1986 *The Organization of Development Planning in the South Pacific.*
- 30 Hamnett, Judith D  
1986 *Guide to Films about the Pacific Islands.*
- 31 Lal, Brij V, compiler  
1987 *Wansalawara: Soundings in Melanesian History.*
- 32 Quigg, Agnes  
1987 *History of the Pacific Islands Studies Program at the University of Hawaii, 1950-1986.*
- 33 Stepien, Edward R  
1988 *Ni'ihau: A Brief History, parts 1 and 2.*
- 34 Miller, Melissa C, editor  
1989 *Moving Images of the Pacific Islands: A Catalogue of Films and Videos.*
- 35 Petersen, Glenn  
1990 *Lost in the Weeds: Theme and Variation in Pohnpei Political Mythology.*
- 36 White, Geoffrey M, editor  
1991 *Remembering the Pacific War.*

- 37 Furuhashi, Lynette, compiler  
1994 *Pacific Islands Dissertations and Theses from the University of Hawai 'i, 1923–1990, with 1991–1993 Supplement.*
- 38 Aoki, Diane, editor  
1994 *Moving Images of the Pacific Islands: A Guide to Films and Videos.*
- 39 Furuhashi, Lynette, compiler  
1997 *Pacific Islands Dissertations and Theses from the University of Hawai 'i, 1923–1996.*